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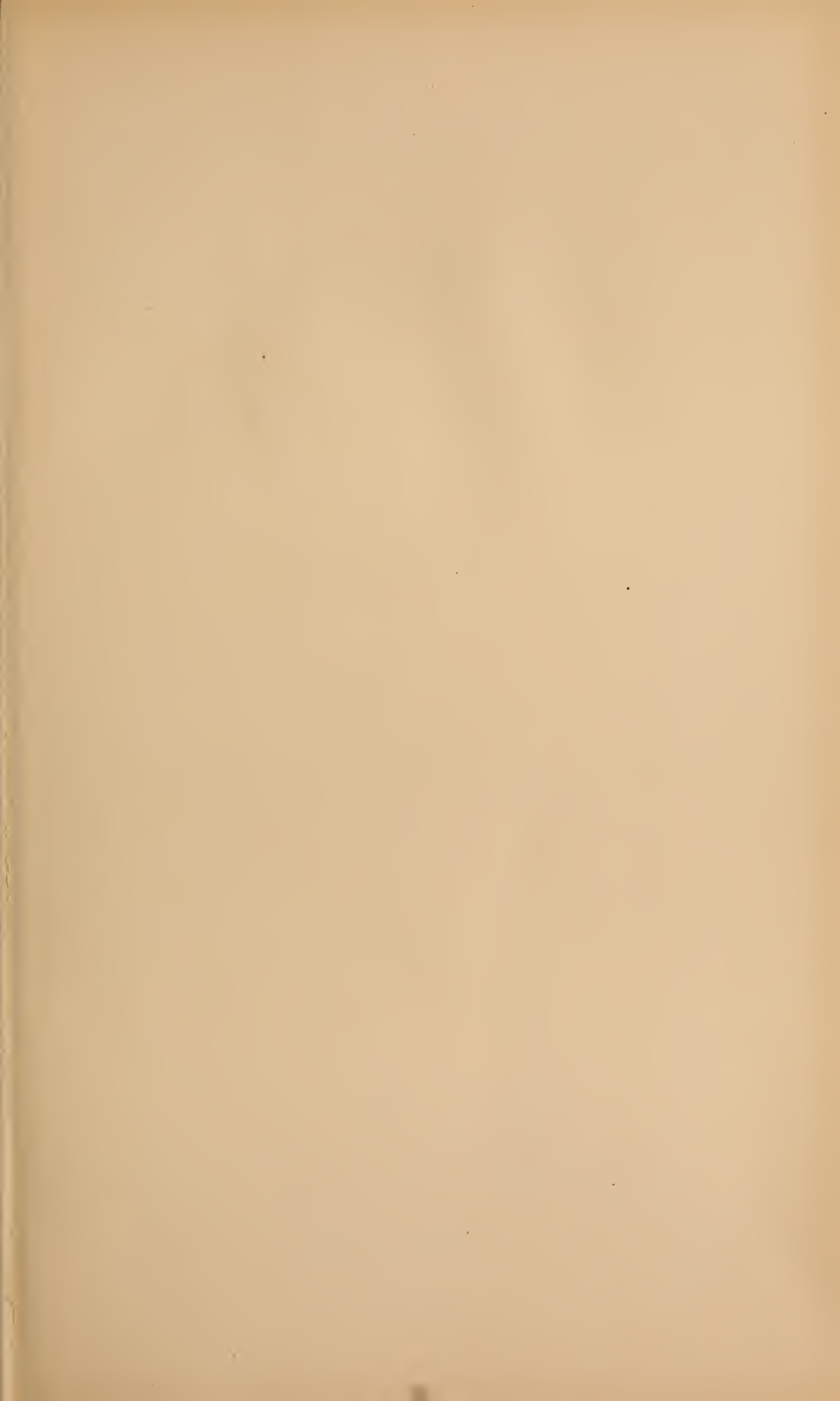
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THE JOURNAL OF OPHTHALMOLOGY

OTOLOGY AND LARYNGOLOGY.

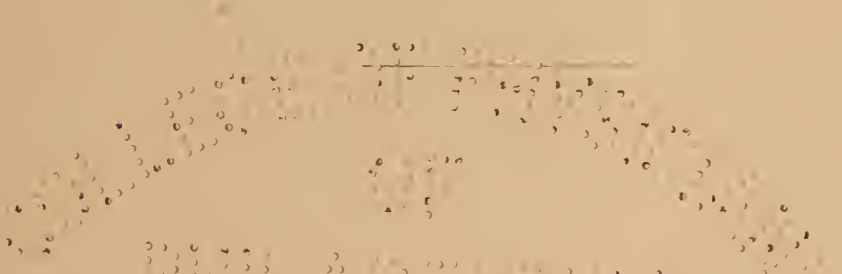
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CHARLES DEADY, M. D., EDITOR.

ASSOCIATE EDITORS:

H. H. CRIPPEN, M. D., OPHTHALMOLOGY AND OTOLOGY.

MALCOLM LEAL, M. D., LARYNGOLOGY.



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AUG 16 1906

THE
TO
ALL

DR. GEO. S. NORTON.

It is with a profound sense of personal bereavement that we record the death of the senior editor of this journal. Coming as it did, without warning, like a bolt from a clear sky, we are dazed by the rudeness of the shock and appalled at the irreparable loss.

But little more than one short week ago he stood among us apparently in all his accustomed vigor, with the cheerful mien, the brilliant eye, and the ruddy hue of health ; to-day we know that he has passed to the silent land and that we shall see his kindly face no more.

A few days before his last illness began he made a short journey outside the city, returning with a slight bronchial catarrh as the result of the exposure. He continued, however, attending to business, and on Wednesday, January 21, after making an operation in the New York Ophthalmic Hospital, complained of chilliness and general discomfort. After this he proceeded to the New York Homœopathic Medical College where he delivered his weekly lecture to the students. An attempt was made to dissuade him from lecturing, as it was apparent that he was in no condition for work, but true to his ideal of duty he replied that he must go, as the students would expect him and their time must not be wasted.

In the night he had a chill followed by fever, keeping the house all day Thursday, and calling in Professor St. Clair Smith toward evening. On Thursday Dr. Smith discovered crepitant râles and localized a pneumonic process at the base of the left lung. The pleura was also affected and was the source of the most agonizing pain. The temperature rose to $104\frac{1}{2}$ and this, together with the severe suffering, served to utterly exhaust his vitality. On the following Wednesday the temperature fell to about 101 , and fluctuated in this neighborhood thereafter, but the change found the patient in a low delirium, with symptoms of purulent infiltration and a tendency to gangrene, under which he sank rapidly ; his death resulting from cardiac failure at 3.30 A.M. on Saturday, January 31.

All that human skill could do to avert the fatal result was most thoroughly done. Dr. Smith spent the greater part of his time with the pa-

DR. GEO. S. NORTON.

tient, both day and night, and Drs. T. F. Allen and Malcolm Leal were had in consultation. Nothing seemed to have the least effect in staying the destructive process, and it was apparent, almost from the first, that the conditions were extremely unfavorable for recovery.

George Salmon Norton was born at New Marlborough, Berkshire County, Mass., December 8, 1851, the son of Salmon K. and Sarah Jane Brigham Norton.

After obtaining the usual home education he entered Dartmouth College, upon leaving which he came to New York and began his medical study at the New York Homœopathic Medical College, graduating in 1872. While attending lectures he was appointed apothecary to the New York Ophthalmic Hospital, and on graduating he assumed the position of House Surgeon of that institution. He was appointed surgeon in 1875, elevated to the Board of Senior Surgeons in 1883, and was elected a member of the Board of Directors three years ago. He was for many years Professor of Ophthalmology in the college of the New York Ophthalmic Hospital, and was called to the same chair in the New York Homœopathic Medical College on the death of Dr. Liebold at the close of 1886.

He was elected to membership in the American Institute of Homœopathy and in the Homœopathic Medical Society of the County of New York in 1872, and was also a member of the Homœopathic Medical Society of the State of New York, the American Homœopathic Ophthalmological and Otological Society, of which he was at one time president, and the Ninth International Medical Congress. When the Laura Franklin Free Hospital for Children was established he was appointed ophthalmic surgeon to the institution, and for a long time he filled the same position on the staff of the Ward's Island Homœopathic Hospital.

As a writer he was extremely prolific, and the literature of our school has been greatly enriched by his contributions in the line of his chosen specialties.

He collaborated with Dr. T. F. Allen in bringing out the first edition of Ophthalmic Therapeutics. When a second edition was called for Dr. Allen withdrew and Dr. Norton alone revised and enlarged the new edition.

When the JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY, AND LARYNGOLOGY was established, it was most natural that he should be called to the chief editorship, and to his indefatigable energy and industry its unparalleled success has been in a great measure due.

Almost from the first his practice was confined to the diseases of the

DR. GEO. S. NORTON.

eye and ear, and such was his skill and success that it rapidly increased until, at the time of his death, he was probably treating a larger number of private patients than any other oculist, of either school, in this city.

In December, 1889, he was elected president of the Homœopathic Medical Society of the County of New York for the year 1890, and served his term with distinguished ability, his thorough knowledge of parliamentary law enabling him to preside with dignity at a period when such knowledge was absolutely necessary to success, while his systematic and earnest attention to the duties of the office contributed to make up one of the most successful administrations in the history of the society.

He was married September 22, 1875, to Kate West Graham of New York, who survives him with their two children, a daughter aged fourteen, and a son, born about eighteen months ago.

Dr. Norton's career was a forcible example of the power of mind over matter.

Physically he was of delicate mould, and the preservation of health with him entailed an amount of self denial and a degree of care to which the average man is a stranger ; yet his indomitable will and untiring industry enabled him to perform an amount of work which would have sorely taxed many a stronger physique, while his careful precision, even in the smallest details, made it absolutely certain that whatever he undertook would be most thoroughly and conscientiously performed.

His professional learning was profound and was constantly augmented by systematic study ; and such was his state of mental discipline, that it needed only the stimulus of present necessity to enable him to use instantly and accurately, the knowledge which he possessed on any given subject.

As a diagnostician he was nearly faultless. With the members of the surgical staff of the New York Ophthalmic Hospital, who best understood and appreciated his ability, his deliberate opinion on any doubtful case went unquestioned ; he was universally regarded as the court of last resort.

As a prescriber he was careful, able, accurate, and homœopathic.

As an operator he was sure, and it was in the presence of the difficulties and the unforeseen accidents which test the nerve of the best surgeons that he demonstrated his superiority and elicited the admiration of observers.

Like the careful general, he planned his campaign and arranged his

DR. GEO. S. NORTON.

forces to the best advantage before the battle, and no emergency ever found him wanting.

As a teacher he was among the best. He always availed himself of the first requisite in good teaching : a thorough knowledge of his subject ; possessed of this, his lucid style and pleasant and easy method of presentment combined to make him a most popular and able lecturer.

His ambition was boundless ; nothing satisfied him but perfection ; and the earnestness, industry, and force with which he attacked each new problem resulted not only in personal benefit, but excited the emulation of those about him. This phase of his character was most strikingly exhibited in his labors as a member of the faculty of the College of the New York Ophthalmic Hospital. His constant aim was to elevate the standard of instruction. His lectures were always delivered on time. His clinics were always full and interesting, and the students intuitively felt that excellence was the only passport to his favor.

Prompt in acknowledging the claims of friendship and in reciprocating benefits conferred ; gentle and kindly in his treatment of the lowliest of his hospital patients, his genial temperament won him hosts of friends, and thousands of hearts will ache with sorrow at his untimely taking off.

Other hands must take up his work, other shoulders fit themselves to his burdens ; but none so competent, so thoroughly equipped, so willing, so labor-loving.

To his sorrowing little family our heartfelt sympathies go out ; we mourn the eminent physician, the wise teacher, the valued friend ; they sorrow for the loving husband, the kind father. They lament the loss of their all.

We commend them in this hour of sore affliction to the tender mercy of Him in whom their departed loved one placed his trust.

THE JOURNAL OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

EDITOR,
GEO. S. NORTON, M.D.

ASSOCIATE EDITORS,
CHAS. DEADY, M.D.
MALCOLM LEAL, M.D.

AGARICUS MUSCARIUS IN AMAUROSIS AND ATROPHY OF THE OPTIC NERVE.

BY WM. E. ROUNDS, M.D., O. ET. A. CHIR., NEW YORK CITY.

CASE I.—In the year 1883 Miss M. S. was brought to me for treatment, giving the following history : In 1880, at the age of eleven, she was attacked with severe periodical chill accompanied by severe headache, the pain being at the base of the brain. She was, at that time, under old-school treatment and was relieved by powerful drugs. In the spring of 1881, when she was a little over twelve years of age, she received a severe fright, after which severe nervous symptoms developed, from which she suffered greatly for some time. In the autumn of 1881 she was again attacked by chills, similar to the attacks before mentioned, accompanied by the racking, tearing pain at the base of the brain. Early in the spring of 1882 she began to develop marked hysterical symptoms, slight, and with considerable intervals at first, but gradually becoming more violent and frequent. Nothing, not even the strongest medicine, seemed to control these attacks. Shortly after retiring at night she would become quite unmanageable in her efforts to drive some imaginary person from the room. She also suffered greatly from the occipital headaches. If not held she would throw herself upon the floor and beat her head against it, crying out, "Oh, my head, my head !"

Things went on in this way in spite of all treatment until early in the fall, when she hurt her eye. When reaching up to a shelf, on which were a teapot and a lamp, the shelf broke and the lamp or teapot struck her upon the right eye, or at least struck the orbit, causing a contusion around the eye ; but so far as I could

learn there were no positive indications of the eyeball having been struck. But from the moment of receiving this injury she apparently lost all sight in the right eye. She was then recommended to consult me, and came to my clinic at the New York Ophthalmic Hospital. She was then just fourteen years of age. She claimed to be blind in the right eye, although the ophthalmoscope did not reveal any cause for the loss of sight. The eye seemed to be perfectly normal in every way, and yet by rigid tests we could not discover that she was shamming. Incomplete ptosis was present. She remained in the hospital fourteen weeks under treatment. All this time she was extremely troublesome because of her nervous attacks at night. Nearly every night she would awake from what seemed to be a sound sleep, crying, "Oh, my head, my head!" And if not closely watched and held would beat her head against the floor or wall until it was covered with bruises. With the cessation of the pain in her head the nervous excitement would subside, and between the attacks she appeared to be in a perfectly normal condition, with the exception of the blindness of the right eye, which she claimed was absolute.

In March of 1883 she left the hospital, very much benefited in a general way, but still totally blind in the right eye so far as I was able to discover. She came to the clinic a few times after she left the hospital, and was then placed under old-school treatment by her mother. She grew steadily worse until late in the fall of 1883, when all treatment was discontinued and she was placed in the Institution for the Blind, Thirty-fourth Street and Ninth Avenue. At this time she could see quite well with the left eye, although the eye was irritable and she suffered some from photophobia. She had then arrived at the age of fifteen years and her health was good. Since leaving the hospital she had entirely recovered from all her nervous symptoms, her mother attributing her cure to the treatment she had received at the hospital; and from that time to this there has been no recurrence of the chills, headaches, or hysterical mania.

On the 26th of June, 1884, she left the Institution for a month's vacation in the country, visiting friends in Sullivan County, N. Y. On the fourth of July following, she was out in a severe thunderstorm. Her clothing became completely saturated with rain, and she was compelled to remain in this condition for some time. A severe cold resulted, and some time during the following week

she lost the sight of the left eye. It became impossible for her then to tell night from day, although she seemed to have some perception of a very bright light falling directly upon her face. She remained in this condition, having no medical treatment, until June, 1886. During this time she remained at the Institution for the Blind, learning the blind alphabet and, I think, a trade. About this time she began to suffer greatly from severe nictitation.

June 12, 1886, she was brought to me at my office because of the benefit she had received while under my care at the hospital in 1882. Her condition then was as follows: So far as I could ascertain she was totally blind. Although she seemed to have some perception of light, she could not tell the direction of a reflection from a Tobold condenser. She was suffering from a severe nictitation of both eyes, and the most distressing nystagmus that I ever saw. It was of the rotatory type, the eyeballs rolling in their orbits at a very rapid rate from right to left. This motion was constant, never ceasing night or day, and produced a terrible sense of weariness and exhaustion. The pupils were about half dilated, and reacted but imperfectly to light. On account of the rapid motion of the eyeballs and the constant twitching of the lids a satisfactory examination of the fundus of the eyes could not be made, but it was plain that the mediæ were clear. The next day, with the pupils fully dilated under atropine, the fundus could be imperfectly seen in rapid motion. From the glimpses caught while in transit the disc and the other portions of the fundus seemed unusually pale, but there was nothing to be seen to account for the loss of sight.

As the patient had been brought to me to try electricity, hoping it would relieve the nystagmus and nictitation, I immediately began using it in the form of the constant current. It was used every day for a month—the negative pole at the base of the brain and the positive pole over and around the eyes. It was applied five minutes to each eye as strong as the patient could bear it, gradually increasing the strength after the electrodes were in position, being careful to remove them by degrees so as to avoid the shock of the interruption of a strong current. At the end of the month I could discover no improvement, but the mother of my patient insisted that the treatment should be continued. It was then employed only every other day. At the end of another

month there was still no improvement of the sight, although she said the electricity rested her head. The nystagmus and the lid spasms were also as distressing as ever.

At this time, about two months after beginning treatment, *Agaricus musc.* was given on account of its well-known influence over choreic muscles. Fifteen drops of the tincture were given in the twenty-four hours, in divided doses. At this time, the electricity was applied but twice a week. This treatment was continued steadily for about three months; the patient, to my secret wonderment, coming to me regularly, rain or shine. About this time I noticed that the spasms of the lids had about ceased and the nystagmus was much better, and for the first time learned from my patient that she had a better perception of light. She could not distinguish objects, but could tell when a bright light was turned down or up. Of course my interest in the case was very much stimulated by these discoveries and I watched the progress of the case more closely. At the end of another month it was very plain to me that my patient was getting better. She continued coming regularly and for three months more the galvanism was used twice weekly, and fifteen drops of *Tr. Agaricus* given daily, at which time my records show that she could see sufficiently well to walk alone in the street, although her vision could not be made better than $\frac{20}{200}$. But even this was encouragement enough for the continuance of the treatment. No change was made with the exception that the electricity was given but once a week.

After a few weeks she began to come to my office irregularly, because as she said she improved so steadily that it did not seem necessary. She continued, however, to take the *Agaricus* until February, 1887, when I tested her eyes and found the vision $\frac{20}{200}$ o.u. with a manifest hyperopia of one dioptric. Up to this time she had used her eyes but very little for near vision, seeming to have a dread of the blindness returning. After prescribing a glass of +1. D. to correct the Hm. she was advised to use her eyes regularly every day. All treatment was then stopped; she at that time had no nystagmus or nictitation. The ophthalmoscope showed no trouble in the fundus. In fact both eyes were perfectly normal, and as she expressed herself she could "see everything! everything!" All treatment was discontinued the last of February 1887, but, she has been seen from time to time since then. Th

glasses were used for about a year and then discarded. She has for a year or more earned her living, performing the duties of a stenographer and typewriter.

Remarks.—What restored this girl's sight? Was it galvanism? Was it the tincture of *Agaricus*? She took, during the time she was under my care, nearly eight ounces of this remedy. I am inclined to think that she received more benefit from the drug than from the electricity. To be sure, she was relieved of some distressing symptoms by the electricity before she began to take *Agaricus*, and the patient herself attributes her recovery to the electricity, but I think it is an illustration of a homœopathic cure. In fact, one has only to look at the eye symptoms of *Agaricus* to discover why my patient was restored to health.

Under eye symptoms of "*Amanita*" in *Hering's Guiding Symptoms* the following symptoms are found: "*Spasmodic twitchings of the eyes and lids. Twitching of eyeballs when reading; trembling, and jerking of eyelids.* As soon as she opens her eyes in the morning both eyeballs, no matter whether they are fixed upon an object or not, begin to revolve to the right and left with the velocity of half a second, and this continues for the whole day with but few intermissions; clonic spasms of the eye; lids open and close in quick succession; quivering of lids." Under head symptoms may be found the following: "Nervous headache—Beating pains with despair bordering on rage—Headaches with chorea—*Tearing in the head*: as if the brain were torn; in the forehead; in the right temple; the left side of the occiput; in the whole of the head, at intervals particularly behind the right ear." In Jahr's *symptomen codex* the following may be found: "Beating in the vertex, driving him almost to a state of frantic despair. Vanishing of sight suddenly when walking in the open air. Short sightedness and dim sightedness of both eyes. Very indistinct sight. Everything appears obscured, as if by turbid water, or as if surrounded with mist."

The above symptoms seem to indicate that *Agaricus* may be useful in deep seated eye troubles, as well as in ocular

chorea. The history of the following case confirms this thought.

Miss I. H., aged eighteen, residing at the Institution for the Blind, came to me November 3, 1887, because she had heard of the case related above. The patient had been blind since she was four years of age, following an attack of spinal meningitis. She seemed to have no positive perception of light in either eye. Examination with the ophthalmoscope showed also late and complete atrophy of the optic nerves in both eyes. She was suffering from nystagmus of the rotatory type. The rotations were not so rapid as in the first case, but were from *right* to *left* and without cessation night or day, and were accompanied by a feeling of great weariness in and around the eyes. I explained to her that her case seemed hopeless so far as the sight was concerned, but that she might be relieved of many of these symptoms which were causing her so much discomfort. As in the first case, the electricity relieved the "tired feeling" in and around her eyes, but it would return if she did not receive the treatment at least every other day.

This treatment was continued every other day for four months, she being able to bear the electric current much stronger than the first patient. At the end of this time her condition remained apparently the same as at first, with the exception that her eyes did not feel so tired. The sight and nystagmus had not been improved. I had taken charge of the case with the understanding that she was to come to me regularly for a year, as often as I thought best. She was now given Tr. Agaricus musc., fifteen drops daily, in divided doses, and the galvanism twice a week. It is unnecessary to follow the case in detail. This treatment was continued for eight months, with the result of completely stopping the nystagmus and reducing the size of the pupil to very nearly normal; due to return of reaction to light, of which she had almost none when she began treatment. The ophthalmoscopic examination at this time revealed no change for the better. The veins of the retina were large and tortuous and the arteries but the minutest threads. At this time my patient suddenly stopped coming, as I afterward learned, on account of financial trouble. In February, 1890, after the absence of more than a year, during which time she had been supplied from time to time

with the remedy, she returned to me, saying that during this time she had noticed an improvement in her sight until now, when walking in the street she could see the lighted lamps. The ophthalmoscope revealed no reason for this improvement of sight, but there was an improvement unquestionably. She could tell when an Argand burner was turned down or up, and she would follow with her eyes a bright moving light. Her nystagmus was better but would return to some extent when under great excitement. This patient is still under my care, but there has been no improvement of late, although she has not lost the perception of light which she regained.

It seems to me that this remedy should be tried in cases of progressive atrophy of the optic nerve, especially in those cases which seem to be the result of spinal disease. The symptoms point to it as of value in posterior spinal sclerosis.

A REPORT OF FIFTY CASES OF CATARACT EXTRACTION.

BY CHAS. M. THOMAS, M.D., PHILADELPHIA.

The accompanying series covers all cases operated by the writer since the first series of 120 cases, ending June, 1888, and published in the first number of this journal, January, 1889. The present list closes with June of this year. As in my first report, operations by solution are excluded.

In this series, it will be seen, that not a single case of important inflammatory reaction occurred, and there was no failure to secure at least a moderate sharpness of vision, except in one instance (29), and then the poor result was due to circumstances unconnected with the operation; the patient having injured the eye, while intoxicated, after dismissal from treatment.

In one instance the patient has not reported for adjustment of glasses, but the eye was satisfactory in appearance when discharged from treatment.

As there was no eye lost after the 65th case of my first series, I am thus able to show 105 consecutive cases without this serious mishap.

Examination of the visual results, following the usual standard, shows :

Good, 44 cases, with $V = \frac{20}{20}$ to $\frac{20}{200}$.

Moderate, 4 cases, with $V = \frac{15}{20}$ to $\frac{5}{20}$.

Bad, 1 case, with $V = \text{motion of hand}$.

Unknown, 1 case.

NO. OF CASES.	ULTIMATE V.	NO. OF CASES.	ULTIMATE V.	NO. OF CASES.	ULTIMATE V.
3	$\frac{20}{20}$	8	$\frac{20}{70}$	1	$\frac{10}{200}$
7	$\frac{20}{30}$	2	$\frac{20}{100}$	2	$\frac{5}{200}$
11	$\frac{20}{40}$	2	$\frac{20}{200}$	1	Motion of hand.
11	$\frac{20}{60}$	1	$\frac{15}{200}$	1	Unknown.

In considering the first and second classes we find that the aggregate *good* vision is about 88 per cent. and *moderate* V. about 8 per cent. against 70 per cent. and 12 per cent. respectively as in my first series.

This marked improvement in results, while ascribable no doubt, in part, to increased experience and strict adherence to aseptic methods, I cannot but feel is mainly due to the fact that a *preliminary iridectomy* was done in all the cases except one.

That the performance of a preparatory iridectomy renders the extraction not only simpler but safer, I am more than ever convinced, and have no hesitation in asserting that at least for those of us who are not almost daily engaged in the extraction of cataract, it is the method *par excellence*.

My method of operation has varied in no essential particular from that of two years ago. In making the iridectomy, the lance is entered well back in the sclerotic, and a rather narrower coloboma is aimed for than formerly. The section for the extraction is, as before, a low flap, along the upper corneal edge, avoiding usually any conjunctival prolongation.

The capsule is invariably opened at the equator of the lens with a Knapp's cystotome, and the lens expelled by pressure of a tortoise shell spoon on the cornea. In most cases I have used the bichloride, 1-10,000, for irrigating the ball before and after operation, but lately have occasionally depended on plain hot water.

In perhaps one half of the cases the eye was dressed with isinglass plaster, after the method of Chisolm and others. I can, however, see no special advantage in this covering over the flannel or gauze monocular, except its greater com-

fort in summer weather, and in a few instances, where I have replaced it by the old monocle, the patient has expressed himself as being more comfortable under the latter.

Discission was practiced in 25 cases, and with decided increase of vision in all but three (14, 29, 33). In one of these, however (29), the needling was unwisely done before the eye was entirely free of irritation following an iridocyclitis.

Of operative complications, there is nothing to be said, as no accident occurred beyond the loss of a small amount of vitreous, and the help of the spoon in delivery was required but twice.

The artificial maturation was done seven times, and with uniformly good result, the opacity increasing with decided rapidity within a few weeks after, and in one case, when vision was still $\frac{20}{200}$, complete maturity was secured inside of two weeks.

In the healing process there have been practically no complications beyond an occasional tardy union or a mild iritis, and the duration of treatment has, I believe, not averaged more than ten days.

AGE, HEALTH, EYE AND LENS.	OPERATION AND COMPLICATION.	COURSE OF HEALING.	RESULTS.
1. 48 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{70}$
2. 60 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$
3. 60 yrs. Good. Immature.	Förster's artificial ripening two months previous. Smooth.	Smooth.	$\frac{20}{80}$
4. 78 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$ Disc. $\frac{20}{40}$
5. 65 yrs. Good. Ripe.	Smooth.	Mental hallucinations for 10 days. Mild iritis and slow healing.	$\frac{20}{70}$ Disc. $\frac{20}{40}$
6. 54 yrs. Good. Ripe.	Unruly, much cortex left.	Iritis.	$\frac{5}{200}$
7. 67 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$ Disc. $\frac{20}{40}$

A Report of Fifty Cases of Cataract Extraction.

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AGE, HEALTH, EYE AND LENS.	OPERATION AND COMPLICATION.	COURSE OF HEALING.	RESULTS.
8. 76 yrs. Feeble. Ripe.	Smooth.	Slow healing.	$\frac{20}{60}$
9. 50 yrs. Good. Ripe.	Smooth.	Eye struck in sleep. Capsulitis.	$\frac{20}{200}$ Disc. $\frac{20}{70}$
10. 62 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{70}$
11. 53 yrs. Good. Ripe.	Smooth. Some cortex left.	Smooth.	$\frac{10}{200}$
12. 51 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{40}$
13. 70 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{70}$
14. 61 yrs. Good. Eye very prominent, T. low.	Vitreous in advance of lens. Delivery with spoon; some cortex left.	Capsulo-iritis.	$\frac{15}{200}$ Disc. $\frac{5}{200}$
15. 55 yrs. Good. Ripe.	Förster 3 mos. previous.	Smooth.	$\frac{20}{70}$ Disc. $\frac{20}{36}$
16. 72 yrs. Good. Immature.	Smooth. Some sticky cortex left.	Smooth.	$\frac{20}{200}$
17. 74 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{70}$ Disc. $\frac{20}{20}$
18. 68 yrs. Good. Ripe.	Smooth.	Eye rubbed with pillow, followed by irritation and slow healing.	$\frac{20}{100}$ Disc. $\frac{20}{40}$
19. 60 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{70}$ Disc. $\frac{20}{20}$
20. 58 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{100}$ Disc. $\frac{20}{20}$
21. 69 yrs. Good. Ripe.	Smooth.	Sharp neuralgia for 3 days. No inflammatory reaction.	$\frac{20}{60}$ Disc. $\frac{20}{40}$
22. 62 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{100}$ Disc. $\frac{20}{70}$
23. 67 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{70}$
24. 67 yrs. Good. Ripe.	Smooth.	Mild iritis. Slow recovery.	$\frac{20}{100}$

AGE, HEALTH, EYE AND LENS.	OPERATION AND COMPLICATION.	COURSE OF HEALING.	RESULTS.
25. 75 yrs. Good. Ripe.	Förster 2 mos. previous.	Smooth.	$\frac{20}{40}$
26. 64 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{70}$
27. 80 yrs. Good. Ripe.	Smooth. Förster 1 mo. previous.	Smooth.	$\frac{20}{70}$ Disc. $\frac{20}{40}$
28. 72 yrs. Good. Ripe.	Patient unruly. Some cortex left.	Slow recovery. Mild iritis.	$\frac{20}{100}$
29. 54 yrs. Intemperate. Ripe.	Smooth. Some cortex left.	Smooth.	$\frac{20}{100}$ Mild irido-cy- clitis while in- toxicated. $\frac{10}{200}$ Disc.—Motion of hand.
30. 68 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{30}$
31. 60 yrs. Good. Immature.	Förster 3 mos. previous; some cortex left.	Smooth.	$\frac{20}{100}$ Disc. $\frac{20}{60}$
32. 74 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$ Disc. fol. by iritis. $\frac{20}{200}$
33. 77 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{70}$ Disc. $\frac{20}{40}$
34. 89 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$
35. 64 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{70}$ Disc. $\frac{20}{30}$
36. 79 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$
37. 71 yrs. Good. Immature.	Smooth. Some cortex left.	Smooth.	$\frac{20}{100}$ Disc. $\frac{20}{60}$
38. 57 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$ Disc. $\frac{20}{30}$
39. 60 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$ Disc. $\frac{20}{30}$
40. 53 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{100}$ Disc. $\frac{20}{60}$

AGE, HEALTH, EYE AND LENS.	OPERATION AND COMPLICATION.	COURSE OF HEALING.	RESULTS.
41. 62 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$ Disc. $\frac{20}{40}$
42. 70 yrs. Good. Ripe.	Some vitreous followed lens.	Smooth.	$\frac{20}{70}$
43. 51 yrs. Good. Ripe.	Smooth. No prelim. iridectomy.	Smooth.	$\frac{20}{70}$ Disc. $\frac{20}{30}$
44. 64 yrs. Good. Ripe.	Smooth.	Capsulo-iritis.	$\frac{15}{200}$
45. 64 yrs. Good. Ripe.	Section too small; difficult delivery with spoon.	Slow recovery.	$\frac{20}{70}$ Disc. $\frac{20}{40}$
46. 75 yrs. Very feeble. Ripe.	Smooth.	Smooth, slow.	Did not report for test of V.
47. 71 yrs. Good. Ripe.	Förster 2 mos. previous.	Smooth.	$\frac{20}{60}$
48. 73 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{60}$
49. 65 yrs. Good. Ripe.	Förster 2 mos. previous. Smooth.	Smooth.	$\frac{20}{60}$
50. 58 yrs. Good. Ripe.	Smooth.	Smooth.	$\frac{20}{30}$

A PECULIAR INHERITED EAR MARK: FISTULA AURIS CONGENITA.

BY F. PARK LEWIS, M.D., BUFFALO.

During the last summer, a man, a little beyond middle life, consulted me for a beginning catarrhal deafness. During my examination, he called my attention to a congenital defect, to which he attached no importance, but which he thought might be of interest because of its persistence in his family through several generations.

It consisted merely of a cul-de-sac, of no greater caliber than a Bowman No. 8 probe, and having a depth of perhaps two millimeters. It was at a point corresponding to the attachment of the crista helices to the face, and extended backward between the skin and the cartilage. At infrequent intervals a slight bland, creamy, or purulent discharge occurred, but otherwise no annoyance was occasioned by the opening which was so small that one must look carefully to discover it. An exactly similar pouch was found on the fellow ear.

It was evidently an arrest of development such as Heusinger first described, and which Schwartze regards as a remnant of the first bronchial cleft.

The interesting feature connected with the case is the fact of its being noted in four generations, and the possibility of its persistence in more. It was first observed in the mother of my patient. Of her seven children five were similarly marked; of her sixteen grand-children six had aural fistula; of nine great-grand-children three carry the ear marks, making in the four generations, consisting of thirty-three individuals, fourteen in whom this trifling defect had been perpetuated. It probably antedated the woman in whom it was first observed, and it will in all likelihood be found in the descendants of her great-grand-

children, none of whom have reached adolescence. The family record is as follows :

Elizabeth (marked).	Angeline (marked).	{ Addie (marked). Mary (not marked).
	Henry (not marked).	{ Fred. (marked). One child (marked). Orville (marked). Two children (not marked). Reynale (not marked). Unmarried. Ida (not marked). One child (marked).
	William (marked).	{ Willia (marked). Daughter (marked). Lydia (not marked). Emma (not marked). Four children (no record of marks).
	John (not marked).	{ Lester (marked). Kate (not marked).
	Endrus (marked).	{ Endrus, jr. (no record).
	George (marked).	{ Frank } Albert } (not marked). May }
	Fred. (marked).	{ Estelle (marked).

Schwartz says that these congenital fistulæ are by no means rare.

I remember to have seen them in but one other instance, however, and in this the opening was in the helix, in a young girl, who was greatly annoyed by the accumulation of a thick, creamy fluid—which, in closure of the fistula, would form a sac as large as a bean—and quite painful until the secretion was released. It is quite probable that they are frequently overlooked, when present, owing to their small size. A peculiar feature in relation to the family first mentioned which may have no weight, but which has been observed, is that those having the ear marks have had, in general, other characteristics which render them mutually attractive; while those in whom the defect is not found form in their intimate friendships, a family group by themselves. In this there are a few exceptions, but among the brothers and cousins this has usually held good.

An interesting instance of reversion to the original form will be found in the descendants of Elizabeth through

Henry. The latter was not marked himself, neither was his daughter Ida, but her child, reverting to the characteristic of the great-grandmother—after its absence for two generations—has the aural fistulæ.

A FOREIGN BODY IN THE IRIS.

BY THOMAS M. STEWART, M.D., CINCINNATI, O.

The case reported in this paper seems to be one of unusual occurrence, for diligent research discloses only one recorded case in any way similar to it. This one case occurred in the New York Ophthalmic Hospital in September, 1886, and was reported to the Homœopathic Society of the State of New York, by Dr. A. B. Norton, in 1887.

A resumé of the history of this case is inserted here, as it will add interest to the subject by comparison with the history of my own case.

A young man, aged fifteen years, was sent to the New York Ophthalmic Hospital on September 7, 1886, with a history of having been struck in the eye with a peach-stone some two weeks previous. He had received no treatment, having only seen his physician the day before, who at once sent him to Dr. Norton.

The eye was very red from conjunctival and scleral injection. The iris was swollen, discolored, and adhered to the lens capsule. The pupil was contracted. In the anterior chamber, and at the pupillary edge of the iris, a small amount of pus was noticed. Extending outward from the iris was a small yellowish-white spot, a little larger than a pin's head, which looked like a drop of pus resting on the iris. The patient had had no pain in the eye from the first, and the cornea showed no sign of having been wounded.

The case at this time was diagnosticated as traumatic iritis, but, contrary to all expectations, there was no improvement of the eye after treatment with atropine, and with Hepar internally. Various remedies and applications were used with little benefit, and, as a small cyst or bleb had formed on the iris, an operation

was advised. This was six weeks after he had been received in the hospital. The cornea was incised and the point of the iridectomy knife was passed through the cyst ; the contents were thus evacuated, but no foreign body was found. Six days later, on October 30, the cyst having refilled, another operation was performed. The cornea was again incised with an iridectomy knife and the contents of the cyst evacuated ; a rubber scoop was then inserted, and the original site of the cyst carefully scraped. In the mass thus removed a foreign body, hardly the size of a pin's head, was found, which, on examination, proved to be the fine point from the end of the peach stone.

After the removal of the piece of peach stone, the eye improved rapidly ; the patient was soon discharged from the hospital, and on December 22 his physician reported the case doing well and some vision returning.

Dr. Norton's case was under observation for some eight weeks, and was seen at different times by members of the staff of the New York Ophthalmic Hospital. The fact of a foreign body being in the eye was often discussed, and as often discarded, because, from the nature of the injury, having been struck in the eye with a peach stone, it could not be believed that any portion had entered the eye. Furthermore, the cornea showed no sign of abrasion, and nothing could be seen in the iris.*

As has been stated, the above is an account of a case that occurred in the New York Ophthalmic Hospital in 1886.

The following history is that of a young man, twenty-four years of age, who came to me on March 15, 1890.

The patient, a robust laboring man, is employed in dressing castings, and at the time he received the injury to the eye, was chipping rough edges from a stove casting. While engaged at this work, he felt something strike him in the eye, but paid little attention to it until late in the afternoon. Then, owing to redness and lachrymation, he stopped work and went home. For two days he kept it bandaged with a handkerchief, but as redness still continued he came to me.

I found the eye deeply injected, the cornea a trifle hazy, the

* Trans. Homœopathic Medical Society, State of New York, Part I., 1887.

iris swollen and discolored, pupil contracted. In the lower and inner quadrant of the left eye a small elevation of opaque tissue was to be seen, an ulcer, in other words, and scraping this revealed a little speck of iron, which was removed. Atropine was instilled, the eye bandaged, and Aconite, 3x dilution, given every two hours.

Contrary to my expectations, there was no improvement of the eye when the patient reported two days later. The case ran along in about the same way until ten days after the eye was hurt, when hypopion was noticed, and a small speck of pus was to be seen on the iris.

In the mean time, in my researches, I found the case which Dr. Norton reported, and concluded to operate my own case, in the hope of finding a foreign body. I judged from the appearance of the iris that the foreign body, if any, was located there, for examination of fundus disclosed nothing.

On Wednesday, March 26, the operation was made, under the influence of cocaine. An incision was made through the cornea, and through this I passed the spoon-shaped blades of a small pair of curved forceps. The little drop of pus was grasped and care taken to go deep enough to reach the base. The mass thus removed was then carefully examined, and a small, black, irregular body was found, which proved to be a piece of iron. After the removal of the foreign body, the eye improved rapidly, and vision at this date appears to be as good as it ever has been.

The non-improvement of the eye under treatment and the record of the case which occurred in New York, were the indications for the operation. The only tenable cause for the continuance of the symptoms was a foreign body somewhere in the eye. The condition of the media and fundus furnished no evidence of its being located in the deeper tissues. The yellow drop of pus on the iris seemed, therefore, to point to the most probable situation of the foreign body. These conclusions were verified by the final results of the operation.

THERAPEUTICS AND CLINICAL DATA OF DISEASES OF THE NOSE, THROAT, AND LARYNX.

BY J. A. TERRY, M.D., NEW YORK CITY.

THE NOSE (*Continued*).

KALI IODATUM.

PATHOLOGICAL INDICATIONS.—Catarrhal and syphilitic inflammation of the Schneiderian membrane, with or without continuation into the frontal sinuses, Highmorian cavities, and fauces. Nasal catarrh, which seems to involve the ethmoidal cells and frontal sinuses with most severe pains, sometimes accompanied with sudden suppression of the watery discharge. Coryza in scrofulous subjects, excoriating the nostrils and affecting the conjunctiva. Loss of smell. Ozæna syphilitica. Hay fever.

CLINICAL.—Profuse watery discharge, running a chronic course, or occurring periodically in scrofulous children or syphilitic persons. The mucus is generally colorless, profuse, and acrid; the coryza is attended with much sneezing, and the conjunctiva or Eustachian tubes are often involved in the inflammatory process.

CHARACTERISTIC is the aggravation at sunset with morning or nocturnal aggravation, also the pains in the fore part of the head, which may attain a terrible degree, and the clear mucus discharge with *nasal voice*. Antidotes the bad effects of mercury.

KALI NITRICUM.

Polypus filling the whole right side of the nose was entirely cured by the 3d. dil.—(*Allen*).

KALI CYAN.

Has proved exceedingly valuable for severe coryza of the arsenic type.—(*W. H. Holcombe*).

KREOSOTUM.

Has been used for lupus of the nose and face with burning pain.

LACHESIS.

PATHOLOGICAL INDICATIONS.—Coryza and ozæna.

CLINICAL.—When the sneezing is excessive, and the nasal catarrh begins with sore throat (left side), or there is obstruction of posterior nares, and discharge of bloody matter, sometimes with soreness of the nostrils and lips. During the climacteric period, with flushes of heat.

LYCOPODIUM.

PATHOLOGICAL INDICATIONS. — Crusts in the nose; nightly closure of the nasal openings in dry coryza. Influenza with stoppage of nose. Polypus of nose.

CLINICAL.—Valuable in chronic catarrh, and often overlooked in acute coryza, when dryness, stoppage, and a feeling of dryness in posterior nares are present, or very scanty excoriating discharge anteriorly.

CHARACTERISTIC indications are the obstruction of the nasal passages, and hour of aggravation from 4 to 8 P.M.

MAGNESIA MURIAT.

Nasal catarrh, with itching and burning, nose red and painful, and frequent headache (> open air), or constipation; there is general aggravation from lying on right side. Ozæna with ulceration of nostrils and fetid discharge.—(*Allen*). Vesicular eruption on lips, followed by soreness, with soreness in nostrils and formation of scabs.

MANGANUM.

Like Ferrum, it is of use in anæmic subjects and chlorotic patients who may have a dry catarrh with obstruction of nostrils, worse during cold, wet weather; the nose is sore to the touch.

MARUM VERUM.

One of the principal medicines for polypus of the nose.

Numerous cases are reported cured by it in different orifices of the body.—(Comp., Calc. c., Nitr. ac., Sanguin., Thuja, Kali nitr).

MERCURIUS.

PATHOLOGICAL INDICATIONS.—Coryza, acute and chronic. Syphilitic ozæna. Hypertrophy or thickening of Schneiderian membrane. Perforation of the septum. Periostitis of nasal bones.

CLINICAL.—Profuse fluent coryza of watery, corrosive mucus, generally worse at night. If the catarrh is of some duration, it is better indicated when discharge is greenish, gluish, corrosive, and fetid. Generally the nose is red and swollen. Nitric ac. will complete the cure if there is a syphilitic taint in the system. Ozæna with soreness of the bones.

CHARACTERISTICS.—Inclination to perspire in bed and no relief. Coryza worse at night. Feels bad in a warm room, but cannot bear the cold either. The Mercur. iod. rub. acts better if patient is syphilitic or scrofulous, or if there are polypoid growths in the nasal cavities.

MILLEFOLIUM.

Bleeding from the nose—bright red blood.

NAPHTHALINE.

CLINICAL.—It has been found a valuable remedy for hay fever, many inveterate cases seeming to have been entirely arrested; sneezing, eyes inflamed and painful, head hot; also spasmodic bronchitis and asthma; better in open air; with soreness in chest and stomach; has to loosen the clothing.—(*Allen*).

NATRUM ARSENICATUM.

CLINICAL.—Nasal catarrh, with supra-orbital headache, burning in eyes, watery discharge, dry throat, worse morning. The discharge passes into the throat, has to be hawked up, pain in the root of the nose. Sensation constantly of nose stuffed up, with more or less affection of the eyes.

NATRUM CARBON.

CLINICAL.—Catarrh, with thick yellow mucus. Acute coryza with violent sneezing and profuse discharge of thin mucus, worse from slightest draught or undressing. Discharge during day time and stoppage at night, absence of smell and taste (Comp., Natr. mur.), and relief by free perspiration.

NATRUM MURIAT.

PATHOLOGICAL INDICATION.—Coryza (acute), anosmia with loss of taste. Hay fever. Chronic naso-pharyngeal catarrh. Especially suited after the local application of nitrate of silver.

CLINICAL.—The record of this drug points to its great value in coryza, fluent awhile and with stoppage the next; the discharge is clear as water, with feeling of dryness and lachrymation from obstruction of nasal ducts. The absence of smell and taste seems to be a leading indication (Puls.). The lips sometimes swell and crack, and vesicular eruptions around the mouth or on lips appear when the medicine is indicated in cases of chronic coryza, herpetic individuals. Morning aggravation, loss of taste, general weakness, and elongated uvula will be apt to be present *in toto* or separate in cases of chronic naso-pharyngeal catarrhs, and seldom is the subject found free from headaches of the periodic type. In persons who are very sensitive to the seaside atmosphere, the catarrhal complaints are observed to be aggravated, particularly with thin and delicate subjects, inclined to be dyspeptics. (Pyrosis and constipation.)

CHARACTERISTIC indications are the loss of smell and taste, morning aggravations, and exacerbation of complaints near the seashore. The spare habit and the dyspeptic, with inclination to eruptions around mouth or lips (hydroa), headaches, dandruff, or herpetism of the dry variety are the subjects who derive most benefit from this drug. Its use will also favor the development of adipose tissue in the system.

NITRUM ACIDUM.

PATHOLOGICAL INDICATIONS.—Chronic catarrh, syphilitic

ozæna, eruption of herpes, or excrescences (warts) on the tip of nose and on the alæ. Redness of the tip. Polypus. Ulcers.

CLINICAL.—Fluent coryza with obstruction of nose; the mucus is only discharged through the posterior nares. Coryza with hoarseness. The nasal discharge easily becomes fetid and yellow, with complete obstruction of the nasal passages, or sometimes with dropping of water from the nostrils. Warts on the tip of nose.

CHARACTERISTICS are the stitches in the nose, as from splinters, when touching it (Argent nitr.); the eruptions in the alæ of the nose, with itching; redness of the tip; a syphilitic diathesis with abuse of mercury; sweaty feet, and aphonia with coryza.

NUX VOMICA.

CLINICAL.—Coryza caused by dry, cold weather, with sneezing and stiffness in the nose, which seems dry; or there is sometimes a little watery discharge, worse in the house, better in open air. Often a valuable remedy in the beginning of a severe coryza, which is sometimes fluent during the day and stopped at night; or the stoppage may alternate between the nostrils, with somewhat acrid discharge. Coryza in nursing infants, preventing nursing (Sambucus) (Allen.)

PETROLEUM.

CLINICAL.—Chronic nasal catarrh with obstruction of the posterior nares; formation of scabs, purulent discharge, and cracks in nostrils.—(Comp. with Graphites.)

PHOSPHORUS.

PATHOLOGICAL INDICATIONS.—Ozæna. Caries of nasal bones. Polypus.

CLINICAL.—Nasal polypus, bleeding profusely. Chronic nasal catarrh, with green, bloody mucus. Caries of the nasal bones and of the jaw. Fanlike motion of wings of nose (Lycop.). Ominous coryza in scarlatina, with great discharge, flowing down the pharynx when lying; rattling from breathing. Coryza complicated with hoarseness and bronchial catarrhs.

PULSATILLA.

One of the leading and most used remedies for a cold in the head. Frequent alternation of fluent and dry coryza with nose-bleed, loss of appetite and smell, with fluid or thick yellow discharge. An orange-colored discharge from the nose in severe colds points to abscess of the antrum, and is cured by Pulsat. This discharge smells like horse urine. Catarrh, with loss of smell and taste, occasionally indicates this drug; but if the aggravation be in the forenoon, Natr. mur. is indicated.

Ozæna, discharge offensive, with the mild disposition and other characteristics of the drug.

The discharge does not excoriate the nostrils; it is generally thick and profuse, usually with loss of smell.

RANUNCULUS BULB.

CLINICAL.—Hay fever. Smarting and burning in the eyes, nose stuffed, worse toward evening; pressure at root of nose, especially tingling and crawling in the nostrils; patient tries in every way to reach this sensation by hawking and blowing the nose (*Allen*).

Patient is apt to suffer from urticaria or intercostal pains in changes of weather.

RHUS TOX.

Influenza and coryza with severe pains in the muscles or bones, caused by humidity or damp atmosphere. Terrible access of sneezing during the night. In the rheumatic subjects every change of the weather brings on an attack of sneezing and coryza.

SABADILLA.

The spasmodic sneezing and lachrymation when being in the open air is a strong indication for this remedy in influenza, which also may be complicated with tonsillitis. Hay fever with total obstruction of the nasal passages; burning, stinging, itching, and tingling in the nose, which may be found swollen, with a watery discharge generally.

SAMBUCUS.

Nasal obstruction of new-born babies with suffocation

and sudden starting up. Inability to nurse. (Comp. Nux. vom.)

SANGUINARIA.

Polypus in the nostrils, gelatinous or mucous. Coryza with pain at the root of the nose and frontal sinuses. The Sanguinaria nitrate has been used quite extensively for the above symptoms and chronic catarrh, with sneezing and burning; laryngitis with aphonia and hollow cough. The posterior nares feel raw and sore, with hawking of thick yellow mucus, sometimes tinged with blood.

SEPIA.

Nasal polypus, mucous or fibroid. Formation of hard mucus in the posterior nares. Dry catarrh in left nostril.

SILICEA.

Ulceration of Schneiderian membrane and bones of the nose, with offensive purulent discharge. Ozæna; the discharge is bloody, and very fetid. Strongly indicated when the Eustachian tubes are involved. It may be used in hay fever when patient suffers with sweaty hands or feet, which are generally clammy. Relieved by the heat of the bed or keeping very warm. Predisposition to dental and anal fistulæ.

SULPHUR.

It suits better the chronic forms of catarrhs in the nose. The scrofulous and weakened constitutions will derive the most benefit from it. As an intercurrent remedy, is valuable oftentimes to favor the action of other remedies, when beneficial effects have ceased.

(To be continued.)

A CASE OF SARCOMA OF THE CHOROID.

BY W. S. SEARLE, M.D., BROOKLYN, N. Y.

Early in the spring of 1889, A. B., a gentleman of sixty-eight years, observed that the sight of his left eye was much impaired. It diminished rapidly to extinction and, in March, he consulted Dr. H. Knapp, a prominent oculist of New York, regarding his case. His opinion was that sarcoma of the choroid was present, and he advised immediate removal of the diseased organ. He warned the patient that delay was dangerous, as the disease might rapidly develop, and affect other organs. Unwilling to at once comply with this advice he consulted me, and although confident that an operation would, in the end, be imperative, I placed him under treatment, closely observing the tension of the eyeball as well as any indications of the spread of the disease.

With but little variation in the tension, which, at intervals, appeared to be below and again above the normal, I delayed operation until the 10th of January, 1890. There had then developed, at the upper and outer quadrant of the globe—a position corresponding to the location of the tumor,—two or three enlarged blood-vessels in the conjunctiva. I then informed the patient that the operation could not longer be deferred.

With the assistance, and counsel of Dr. A. G. Warner of this city, I enucleated the eye, cutting the optic nerve as far back as possible and removing fully three quarters of an inch of the same. Examination showed about one half inch of this nerve to be swollen to double its normal size. But we got well behind this portion in our section. The operation was marked by the severest hæmorrhage which either of us had ever witnessed in a similar case. Nor could it be controlled until the orbit had been carefully plugged with "punk," and a firm compress bandage applied. Even so, the whole forehead upon the affected side and the face

down to and below the border of the lower jaw was largely distended with infiltrated blood. The blood did not clot, and it was evident that a condition of hypinosis, or lack of fibrin, existed.

We assured ourselves, however, that no spread of the disease to the tissues of the orbit was present. They all felt soft and normal to the touch. The sclerotic of the enucleated globe also appeared to be sound and healthy. Within it was found a tumor, which filled about one third of the globe, and this, at my request, was examined, after suitable preparation, by Dr. W. W. Blackman, who unhesitatingly pronounced the same to be a spindle-celled melanotic sarcoma.

With the concurrence of Dr. Warner, I prescribed *Crotalus* 3 for the patient. For a few days all went well, but I soon observed, at the lower part of the wound, a thickening and hardening of the tissues, which, by the tenth day after the operation, had developed into a decided tumor. Upon consultation with Dr. Warner it was decided that this growth was doubtless of a similar nature to that within the eye, though we were both amazed at the rapidity of its development in what had seemed to be healthy tissue at the time of the first operation, and especially so, considering the fact that the recurrence had not occurred at the location of the enlarged blood-vessels apparently connected with the intra-ocular tumor.

On the tenth day, therefore, after the first operation, I removed the secondary growth, which was about the size of a small chestnut, the cut surface of which, microscopically, appeared to be of the same malignant nature. Unfortunately, by mistake, this tumor was not preserved, but there can be no doubt, I think, that it was sarcomatous. It extended deeply into the orbit, and I was uncertain whether I succeeded in removing the whole of it. Its section showed a yellowish white color, and its substance, while not cartilaginous, was hard and certainly quite distinct from normal tissue. I was the more careless regarding the preservation of the specimen, since both Dr. Warner and myself deemed such unprecedentedly early recurrence of the disease as a certain proof of its malignancy, and had, therefore, no hope of the possible recovery of the patient.

The effect of the *Crotalus* upon the hypinosis, so observable at the first operation, was most marked. For at this second operation, though done in tissues engorged with blood, there was no

repetition of the excessive hæmorrhage, the blood clotting quite normally.

At an entire loss for any therapeutic precedent competent to control this apparently and so well known malignant disease, I studied the conditions with great care, but, I must add, with absolutely no confidence nor hope. The patient was tall, spare, stooping, with the hair and physiognomy of an Indian. This called to mind Phosphorus. And the old worn keynote of this drug, "small wounds bleed much," also pointed to it. But then, I turned over in my mind the well-known fact that this pathological condition is resident in the cellular tissue, and virtually consists of an abnormally rapid and diseased proliferation of connective tissue cells. Regarded from this standpoint, my mind instantly reverted to that king of all remedies for diseases of this class, viz., *Tarentula cubensis*. Should I give one or the other, or both? I finally concluded that, as the spheres of the two remedies are so different, (*Phosphorus* having little if any relation to the cellular tissue), I would give both. Pellets saturated with the tincture of *Phosphorus*, and others moistened with the first dilution of the *Tarentula*, were alternated every hour at first and less often afterward. These drugs proved so apparently efficient, that they were continued for about two months.

The wound healed kindly. No recurrence of the disease occurred (except as herein afterward noted), and the general health of the patient notably improved in every way.

For nine months this condition continued. On November 3 last, however, the patient called at my office to exhibit a bleeding fungus growth of about the size of a small cherry, which began to grow from the middle of the scar about one week previously, and had developed to this size within that period. It appeared like a thin, bluish-black bag of blood, and from it constantly oozed a thin, bloody fluid. I at once ordered a return to the former remedies, and, on the 14th of the same month, he reported that the tumor had shriveled up, and dropped off within a week after beginning the use of the medicines. The scar then looked and felt perfectly healthy. I have not since seen nor heard of the patient. It is my intention to intermittently continue the employment of these drugs for some time to come.

As we review the history of this somewhat remarkable case, I think there are several lessons to be drawn from it.

In the first place we have a confirmation of the great value of *Crotalus* as a hypinotic remedy. I do not know of a drug in the entire materia medica upon which we can more confidently rely in hæmorrhagic conditions due to a lack of fibrin in the blood. In the brief space of ten days it was competent to change the entire blood supply in this man from one in which no clot whatever would form to an entirely normal state.

I would also call attention to the fact of the very slow growth of this sarcoma within the eyeball during a period of nine months as compared with the rapid recurrence of the disease and its very rapid growth in the ten days succeeding the operation, and inquire how far the hypinotic state of the blood was an effort of nature to delay the growth which, when this condition was altered by *Crotalus*, at once became rapid. We must recall the fact that sarcoma is well known to be an abnormal proliferation of the cellular tissue. May it not be a warrantable inference that the afibrinous state of the blood was the result of an effort of nature to prevent this growth by cutting off its supplies? I am not aware that any observations looking to this relation have heretofore been made. But it is desirable that they should be.

I am confident that malignant growths are temporarily controllable by artificially destroying the fibrin of the blood. I have several times accomplished this result to my own entire satisfaction, in cases in which malignant growths were obstructing the lumen of the intestine, by the administration of mercury to the point of salivation. It is difficult to effect this salivation in such cases, even by the most liberal employment of that drug, both externally and internally. But once accomplished, the cancer not only ceases to grow, but, if of the softer varieties, appears to break down into pus and diminish in size.

I am indebted for this valuable point in practice to the late Dr. John F. Gray, of New York, with whom it was an assured fact, and in two instances in my own practice his opinion has been confirmed. I may mention one. A lady

in middle life, became the victim of cancer of the rectum. She was attended by the late Dr. Carnochan, as consulting surgeon. Under his advice, I cautiously dilated the stricture caused by it from time to time, but when this was no longer effectual and it appeared as if she must speedily die from obstruction, I attempted salivation. After a persistent use of mercury by the mouth and skin for a week, the obstruction gave way, and for two or three months fairly normal evacuations were obtained. The growth then recurred, however, and persisted till death came to the relief of the sufferer. These experiences, together with that noted in the case now under consideration, are, to my mind, strong presumptive evidence of a close relation between the amount of fibrin in the blood and the slow or rapid growth of abnormal tissues.

As to the remedies used, Phosphorus is a well known and fairly well proven drug. But from all I know of its pathogenesis, and of its powers as a curative, I cannot credit it with much value in this or similar cases. I wish I had dared to omit it or dared do it now. There is too much at stake, and my results have so far in this case been too satisfactory to venture such an omission. And if I be condemned for employing it at all, I can only plead that I was upon unexploited ground; that I had no symptoms to guide me, and that pathology was my sole resource. Besides, this new drug, *Tarentula cub.*, is an unproven intruder into the *materia medica pura*. Whence it came and how, I do not remember. But, from its wonderful power over boils and carbuncles and their congeners, I have been led to trust largely to it in all forms of cellular inflammation. I hope others will test it in sarcoma.

And now, finally, comes the question whether the results attained in this case were due to the drugs employed. Sarcomatous tumors, as is well known, are exceedingly prone to recur, and we cannot be at all confident that this will not yet happen in this instance, and prove fatal. It is also a matter of record that similar tumors, both intra-ocular and otherwise I believe, have been removed by the knife, and

have not again made their appearance. Dr. Knapp, in his work "On Intra-ocular Tumors," mentions one case in which he enucleated an eye containing a growth of this kind which had not recurred four years thereafter.

But here is an instance in which it did recur twice, and under the influence of remedies the last tumor shriveled up and disappeared with great rapidity, while the general health of the patient has decidedly improved. And, although in common with most observers of experience I am inclined to be incredulous and careful how I take the *post* for the *propter hoc*, I think I am warranted in holding that the balance of probabilities in this case inclines rather toward cure than simple recovery. Time alone can tell whether I am correct in this conclusion.

OBSTRUCTIONS OF THE LACHRYMAL APPARATUS.

BY H. C. FRENCH, M.D., SAN FRANCISCO, CAL.

(With note by Geo. S. Norton, M.D.)

For the past twelve years it has been my practice to treat these obstructions (excepting cases of traumatic origin) without slitting the canaliculi, and the results have relieved me of many regrets and disappointments that followed the best efforts under the old method of slitting, with Stilling's operation. It is surprising how many chronic cases of still-icidium lachrymarum, with dacryo-cystitis, may be cured by the careful and persistent use of Bowman's probes Nos. 1 to 4, making No. 4 the limit of dilatation. The probing should be followed by the injection of suitable agents, such as Hydrastin mur., liquid Nit. merc., or Argent. nit., which have proven most useful in my hands. Many cases in which slitting has been recommended as the only hope of a cure have been restored by a few probings, and with mild injections.

One severe case of dacryo-cystitis, with total obstruction of the ductum ad nasum, of years' standing, will illustrate the method of the proposed treatment. Nicking the punctum with a lachrymal knife, just enough to admit the passage of a No. 1 probe, the passage was probed into the superior opening of the sac, after which a No. 2 and 3 probe were successively introduced. An injection of a four per cent. solution of cocaine was now used ; this agent, overcoming all muscular spasm and pain, facilitated an exploration of the sac. The axis of the passage was very tortuous, and after weeks of probing, at intervals of three or four days, we were apparently no nearer accomplishing an opening into the nose than when we first began. The injections had abated somewhat

the blenorrhœal products, but the sac had still to be emptied through the punctum, as for years previous. I now tried the use of galvanism. Having introduced a No. 3 probe, the positive pole was applied to it, and the negative to the cervix, when five cells of a chloride of silver battery were first used, afterward being increased to twelve. The current was continued for about five minutes. On removing the probe a solution of muriate of hydrastin was injected, which brought away through the canaliculus a quantity of calcareous deposit which seemed to have been broken up by the action of the electricity. After the third application of galvanism a free passage of the injection into the nose was secured, and thereafter the cure was speedy, and having been maintained over a year, we have reason to believe it is permanent.

Gentleness and untiring patience are the principal requisites in the successful use of this method, but the results will yield a rich harvest of satisfaction to the oculist, and elicit the gratitude of the patient.

We do not present this paper as embodying anything new, but as emphasizing the experience of nearly fourteen years, during which we have, with almost uniform success, clung to this simple and natural method, as against the unsatisfactory results of heroic treatment. We appeal to our worthy colleagues to patiently test its merits.

NOTE BY THE EDITOR.

Two years ago, while in California, and in conversation with Dr. French, I became quite favorably impressed with the above method of treating stricture of the lachrymal duct without opening the canaliculus. It was no new method of treatment, but I had always believed it next to impossible to pass a lachrymal probe without opening the canaliculus, and had therefore firmly adhered to the usual treatment by cutting the stricture. This latter method had, however, been most unsatisfactory. It is true that many cases were cured, but there were also many that were not. It was a not unfrequent experience to open the canal thoroughly and be able to pass a No. 6 or 8 Bowman's probe with comparative ease, and yet have the lachrymation nearly

as much as before operation. I determined, therefore, to give the non-cutting method of treatment, so earnestly recommended by my friend Dr. French, a faithful trial. Since then, for two years now, I have only opened the lachrymal duct in two or three cases in both my private practice and the large clinic in the New York Ophthalmic Hospital, and those were cases of obliteration of the puncta or complete closure of the duct. I soon found that it was usually very easy to pass a No. 1 probe through the canaliculus without opening the canal or even nicking the punctum. By very steady firm pressure *directly* in the opening a No. 1 probe will usually enter and without much pain. Sometimes it has been found better to use a smaller probe than No. 1, as an 0 or 00, to dilate the punctum before introducing the No. 1. The injection of cocaine has seemed to somewhat diminish the pain, but has not commonly been employed. The endeavor has always been made not to force the probing so as to produce bleeding, although this generally does occur when the probe is first passed.

My success has been most satisfactory, much more so than in my previous experience. The patient has not been disfigured, the canal has been left intact, and so the suction apparatus preserved. It has only been found necessary in one case to dilate beyond a Bowman No. 4 before the lachrymation has ceased, and usually to a No. 3 is sufficient. When a blennorrhœa of the sac complicates the case a mild astringent, as sulphate of zinc or the like, has been employed, together with internal medication. I have usually probed through the lower canaliculus, as this is the more natural passage through which the tears flow, though occasionally have found it advisable to enter superior canaliculus. It is without doubt the best mode of procedure when it can be followed, and I believe, with Dr. French, that if oculists in general would give it a faithful trial, opening the canaliculus would be the exceptional and not the general method of treatment of obstruction in the lachrymal apparatus.

A MODIFIED NASAL DOUCHE.

BY FRANCIS B. KELLOGG, TACOMA, WASHINGTON.

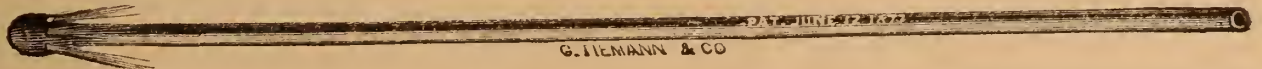
My only apology for adding another to the numberless appliances for douching and spraying the naso-pharynx is that it places in the hands of the patient a means by which he can effectively and pleasantly cleanse this receptacle of catarrhal product,—an end which cannot be accomplished by any other means which have come under my observation.

The objection to the ordinary douche is that it sends a stream in along the floor of one nostril to make its exit along the floor of the other. If the head is bent forward, as it usually is, the membranes of the middle and superior turbinates are reached by a column of water rising in the cavity of the nose until it overflows the septum and runs out the other side. It is practically attempting to cleanse the inside of a funnel by forcing water in at the apex until it overflows at the brim, by which is obtained the maximum of pressure on the parts with the minimum of mechanical cleansing effect. This pressure is often evidenced by the passage of the water into the frontal sinus and consequent frontal headache following the use of the douche. The post-nasal syringe, while effective, involves the assistance of the physician, and eliminates the co-operation of the patient,—a most important adjunct in the treatment of nasal catarrh. Its action is startling and unpleasant to the patient, and its presence behind the soft palate is disagreeable, giving rise to more or less gagging. These features also interfere more or less with its efficiency.

The device by which these objections are met is the

following: A tube of soft rubber of the size of a No. 4 sound (French scale) is so perforated at the extremity as to throw five or six jets back upon itself at an angle of 45° . This is attached to an Alpha or a fountain syringe, annointed with vaseline, and passed into the nose. If it passes in until it hangs down in front of the pharyngeal wall, the jets will effectively cleanse the vault of the pharynx. It can then be drawn up and rotated so as to reach every part of the naso-pharynx and nose, washing it effectively, without a single disagreeable feature. The presence of the tube partially obstructs the nostril in which it is placed, and the solution flows out principally through the opposite one. Hence it is best to insert it upon both sides consecutively.

The passage of the tube through the nose is not disagreeable, and it supplies most effectively the essential features in an instrument of this kind, viz., a multiple stream, under control of the patient, thoroughly washing the parts in a direction from behind forward.



The tube is of soft rubber, with velvet eyes, is furnished with an attachment for affixing it to an Alpha or fountain syringe, and is made by Tiemann & Co. It is a modification of a similar urethral tube known as Mitchell's tube, in which the jets are projected at a more acute angle.

ATROPHY OF THE OPTIC NERVES FOLLOWING SPINAL INJURY.

BY W. P. FOWLER, M.D., ROCHESTER, N. Y.

In the April number of this journal, Dr. Sterling, of Detroit, Mich., reports three cases of optic nerve atrophy following injuries of the spine, and requests other physicians to report their experience in this direction.

I have had one case of atrophy of the optic nerves resulting from spinal injury.

The patient, a man forty-one years of age, came to me Nov. 22, 1886. At that time he was in fair health, but complained of dimness of vision. The trouble had been coming on for several years.

On examination I found blanching of the optic papillæ, retinal veins of normal appearance, but arteries slightly narrowed, R.V. = $\frac{20}{20}$ L.V. = $\frac{20}{30}$. There was concentric limitation of the visual field, much more marked in right than in left eye. Colors were distinguished without much difficulty with L.E. Pupil of right eye somewhat dilated.

The patient was temperate, and there was nothing to indicate that he had ever contracted syphilis. He chewed tobacco,—had done so since early manhood,—but never smoked. While in the U. S. Army, in 1865, his spine was severely injured. He was thrown from a caisson, the wheel of which passed over his body, injuring the spine in the lower portion of the dorsal region. He was taken to the hospital and remained there six months. The lower extremities were paralyzed so that for four months he was unable to walk or move his legs. Never, since the accident, has he been able to lie on his right side, on account of pain produced at the point of injury. He has also been unable to lift anything

heavy because there was a "giving out" in his back whenever he made the effort. The right leg has never regained its full strength. I found the patellar reflex normal. Patient perspires excessively, even when making no exertion. Face flushed.

The use of tobacco was interdicted, and the case treated for several months without benefit. Patient then placed himself under the care of another oculist, and remained with him about eight months, when sight was entirely lost.

About a year after this he applied for a pension. Three physicians (one a prominent ophthalmologist) besides myself carefully examined the case, and made affidavit that in their opinion blindness was caused by the spinal injury. The patient is now drawing a full pension from the U. S. Government.

A few days ago I again had the pleasure of examining this case, and found the patient's condition as follows: Perception of light lost in both eyes; optic disks grayish-white and slightly cupped, outlines clearly cut; retinal veins normal, arteries narrow. Pupils dilated, the right more than the left. General health fair.

This is the only case I have seen where spinal injury seemed to be the cause of optic nerve atrophy. Like Dr. Sterling, I have been unable to find much in text-books or journals regarding cases of this kind. Meyer* mentions injuries of the spinal marrow as a cause of optic nerve atrophy.

Clifford Allbutt's † observations on this subject are too lengthy to be quoted here. They are doubtless familiar to all readers of this journal.

Gowers, in his work, "Medical Ophthalmoscopy," refers to this matter, but does not seem to have any very decided opinion on the subject.

It is evident that there is still much to be learned in this direction.

* "Diseases of the Eye," p. 301.

† "The Ophthalmoscope," pp. 197 to 210.

FOREIGN BODIES IN THE EAR.

BY C. GURNEE FELLOWS, M.D., CHICAGO, ILL.

In the sixteenth century, Fallopius taught that all ear discharges were morbid brain products, and that stopping them would cause death or insanity. The idea of refraining from treatment in the hope that the person will outgrow it, though fallacious, is too often recommended by physicians in our own time. When such advice is given by the profession, is it any wonder that the people go farther with the same reasoning and allow other ills to go unattended? There are many cases on record of foreign bodies in the ear being retained for long periods, and they show how very tolerant, under some circumstances, the ear is of such a condition, and yet under other circumstances how very intolerant of them.

The two subscribed cases illustrate the two points mentioned, viz., the peculiar ideas of patients who believe that there is more safety in non-attention to a retained foreign body than in consulting a physician; and the other showing the tolerance for so long a time of a foreign body in the ear.

CASE I.—Foreign body in the ear for twenty years. April 1, 1890, Mrs. P. presented herself, after hearing a medical lecture on the subject of foreign bodies in the ear. In childhood she had a discharge from the left ear, which ceased in young womanhood. For twenty years she has had a feeling as though the ear were stopped up, with loss of hearing in that ear. Examination: Hearing for the watch, R.E. $\frac{2}{3}$ $\frac{4}{6}$; Hearing for the watch, L.E. $\frac{0}{3}$ $\frac{0}{6}$; Hearing for tuning-fork, R.E., ærial conduction best; L.E. bone conduction best. The loudest fork was not heard by L.E.

Upon examination the external auditory canal was found completely occluded by a hard mass which resisted even the point of a sharp probe, and no probe could find a passage into the canal. The inference was that we had to deal with an exostosis. The hardness, color, and oval exterior seemed to point toward such a diagnosis.

I determined, however, to try the softening powers of an alkaline solution in order to take away any possible superficial accumulation, and so get to the real offending body. The following prescription was ordered.

Sodæ Carb.....gr. xx
Glycerine 3 ii
Aqua dest..... 3 vi
M. fiat sol.

Sig. To be thoroughly applied every hour for twenty-four hours.

At the end of that time, by using a sharp probe, the mass could be slightly penetrated. By means of a sharp curette, the syringe and forceps, a crust was removed, and there was still a hard residue, similar in appearance to the original mass. This gradual method, continued from day to day, allowed us in a week's time to remove the entire mass. It was composed of cerumen and dead epithelium which, during its long stay, had grown as hard as stone, and by its pressure upon the lining of the auditory canal had caused erosion of the canal and finally almost solid union to it.

After removing the offending foreign substance the canal was found to be large, with an atrophied lining and the drum membrane thin and irregularly pressed back into the tympanic cavity. Eustachian tube was closed and only opened after use of the catheter.

By careful use of the catheter occasionally, and Politzer's bag more frequently, the membrana tympani was returned more nearly to its normal position, and the hearing increased in one month to $\frac{18}{36}$, but the bone conduction still remained best.

I have no doubt that this accumulation had been in the auditory canal for these years, and had not been attended to, simply from following the fallacious let-alone plan.

CASE II.—Foreign body in the ear for two years. October 1, 1890, Mr. W. presented himself in an agony of pain, which had

compelled him to walk the floor day and night. He is an architect and contractor, and two years previously had broken off a piece of lead from a carpenter's pencil, which had remained in the ear all this time, with no especial annoyance except to the hearing until a week ago.

He had decided that he would let it remain rather than have the possibility of its being pushed further in upon attempting to remove it. He had himself used hair pins, crochet hooks, etc., from time to time, and exhibited a long hat pin with the point bent into a small, sharp hook. Recent attempts with the latter improvised instrument produced an inflammation which drove him to an aurist. The hearing for the affected ear was $\frac{0}{36}$, with bone conduction good.

Examination showed merely a ceruminal mass, but an inflamed auditory canal with extreme tenderness of auricle and all neighboring parts. He suffered so much at the examination that he frequently left the chair to walk the room, and no effort could be made at removal of the foreign body. I gave him a solution similar to that above, to soften the ceruminal accumulation, and a prescription for Codeine, in order to give him rest. But the soda solution relieved much of the pain after a few hours, and in twenty-four hours it was entirely gone. But with the cessation of the pain came an unwillingness to have anything further done though he finally consented to allow me to remove the foreign body.

The ceruminal mass came easily upon syringing, and with the forceps I withdrew a piece of graphite half an inch long, three eighths inch in width and one eighth inch in thickness.

This foreign body might have been tolerated indefinitely, had not his efforts at removal driven him to seek relief.

BLINDNESS FROM A PENETRATING WOUND OF THE TEMPLE AND ORBIT.

BY HAROLD WILSON, M.D., DETROIT, MICH.

The unusual case of injury and blindness from a penetrating wound of the face, related by W. F. Smith of Chicago, in the *Archives of Ophthalmology* for the current year, p. 142, recalls an interesting case that presented itself at my clinic at Grace Hospital, April 8, 1889, of a somewhat like nature.

The patient was a strapping big negro, twenty-eight years old, and a laborer by occupation. Ten days before coming to the clinic he had been engaged in a row with another negro, and in the course of the dispute his antagonist had stabbed him with a case-knife in the left temple. The knife had entered so deeply that in trying to pull it out the handle had been pulled off, and the physician in attendance had been obliged to resort to some strong pincers before it could be removed. The estimate was made at this time that it had entered three inches and a half, but this must have been an exaggeration. Vision in the left eye, although previously good, had been immediately reduced to the perception of shadows only. The wound had been covered with plaster, and had given no trouble since the accident, nor had there been any pain whatever about the seat of the injury. The patient presented himself to see if anything could be done to improve his vision. I found the following state of affairs :

About half an inch back of the edge of the left orbit was a small vertical wound in the temple, about three quarters of an inch in length the edges, of which were in close apposition, healthy, and pretty well united. No other wounds were visible. Under a considerable portion of the cornea of the left eye was an

extravasation of blood, looking very much like the sub-conjunctival hæmorrhage of an operation for hyperphoria, some days remote. The pupil was widely dilated, and immobile. There was an almost complete paralysis of all the ocular muscles, though not of the lid. The only motion possible was a slight amount upward—less downward—and a trace outward. Vision was reduced to zero. An ophthalmoscopic examination showed a pale disk, arteries very small, veins large, dark, and irregular, and the whole fundus of a much lighter color than normal. Nothing was complained of but the blindness.

The patient had brought with him the knife with which the stabbing had been done. It was an ordinary steel table-knife, slightly pointed by having the upper half of the end ground back a half inch or so. The blade was tapered from an inch in width at the hilt to three quarters of an inch near the point, and was very dull. In fact, it would have been considered dull even for kitchen use. Its course had evidently been about this: Entering just back of the frontal process of the malar bone, it had passed through the temporal muscle, the temporo-sphenoidal articulation, and into the orbit, reaching near the optic foramen, where the muscles, nerves, and blood-vessels lie close together—severing the optic nerve, though not quite completely, and more or less entirely severing all the muscles or their motor nerves. Some fibers of the superior oblique,—or of the fourth nerve,—and possibly some of the superior rectus, were not cut, leaving the limited mobility to the globe already noted; but, in general, both muscles and nerves had been amputated, and some hæmorrhage set up, the blood having found its way at this time forward under the conjunctiva.

On examining the relation of parts in a skull, it will be seen how thin is the wall of bone at the line of union of the malar and sphenoid bones, and how direct a course the weapon must have pursued. With such a dull instrument as this knife was, the force required to make it penetrate so deeply, fracturing the external wall of the orbit in its course, must have been very great. It is to be noted also how necessarily rare such an accident must be, because a slight change in the place of entrance, or direction of the knife, would have rendered its passage into the orbit impossible. In many of the lower vertebrates, where the external wall

of the orbit is not entirely bony, such an entrance into the orbit is more easily effected ; but in man, there is usually bony protection against injuries to the eyes from blows on the temples.

The patient has not reported since the first examination.

ON TWO CONTRIBUTIONS TO THE MODE OF INNERVATION OF THE LARYNX.

BY W. Y. COWL, M.D., NEW YORK CITY.

That the individual action of the superior and of the inferior recurrent nerves of the larynx, like the action of its different muscles, remains a subject of research is evident in view of the considerable amount of investigation still directed thereto, and it is thus moreover clear that the pursuit of the subject must be difficult, indeed perhaps peculiarly so.

The following transcribed accounts of important experiments concerning the former of these problems, namely, the innervation of the larynx, by observers in every way competent for their task, are become especially interesting, in that, while of a decisive character, they have as yet encountered no denial, and are detailed so clearly as to be susceptible of repetition.

Of the authors, one now holds the chair of physiology at the University of Vienna, and is become noted especially for his investigations respecting the actions of the eye, of the larynx, and of the cerebral cortex; the others are respectively in charge of the department of experimental physiology in the Physiological Institute at Berlin, holding the lectureship on the physiology of speech, and in charge of the laryngological clinic of the university at that place.

With reference to the contents of the articles we would note respecting the first, that the easier interruption of the normal impulses in the recurrent laryngeal nerve,—which cause opening of the glottis,—than of those which occa-

sion closure of the same, as there detailed, constitutes a complement to the observation made by Donaldson upon electrical stimulation of this nerve, that from a weak excitation an opening, from a strong excitation a closure of the glottis ensued, and that after repetition of the former operation a number of times, the opening of the glottis ceased to be produced.

These experiments seem to show altogether the greater indirect excitability of the abductor than of the adductor muscles on the one hand, and, as appears quite natural, the greater persistence of excitability in the adductors.

Similar observations with reference to the indirect electrical excitation of the flexors and extensors of the frog's leg have been made by Bowditch, who found that weak currents applied to the ischiatic nerve produced flexion, and strong ones, extension (which in this animal is the more powerful and rapid motion of the two being used for suddenly propelling the entire body).

Another fact, likewise established by Bowditch, bearing on this cessation of effect from electrical stimulation, is that it is not the nerve stem which becomes tired in these instances, but probably the peripheral nerve ending.

The research of Exner concerns a much more comprehensive question in general, namely, the importance of the integrity of the sensor nerves of a part for its motility, and gives a greatly added weight thereto; indeed, the fact is most remarkable, that when after reflexly exciting action of the larynx by irritation of another part, there should no longer be action upon the same irritation, so soon as the sensor nerve of the larynx alone be cut.

It will be noticed that the hypothesis of trophic nerves which has so long been an *ignis fatuus*, appealed to for an explanation of atrophy, whenever other light was wanting, has by this investigation again been found to be fatuitous.

RESEARCHES ON THE CESSATION OF MOVEMENT IN THE
VOCAL CHORDS ON COOLING THE RECURRENT LARYN-
GEAL NERVE.*

BY B. FRAENKEL AND J. GAD, IN BERLIN.

Upon Semons's generalization, according to which, in function affections of the recurrent laryngeal nerve and of its central fibers, the crico-arytenoid muscle becomes first of all paralyzed, a lively controversy has ensued. While the fact that in such affections, there is always a median position of one or both vocal chords for a certain length of time, is now generally recognized, no agreement upon the way in which this is to be explained has been come to. H. Krause, on the other hand, by experiments on animals, has sought to show it probable that there is not a paralysis, but on the contrary a spasm (contracture), and that the median position results from the greater power of the muscle for closing than of that for opening the glottis.

In order to gather further insight into these relations we have upon the recommendation of one of us, applied† the method of nerve cooling, used and advised by the other in studying the simple cessation of function in the vagus, to the recurrent laryngeal nerve.

After some preliminary researches the experiments were arranged as follows :

As a thermode we used a copper cylinder of 35 millimeters' length and 15 millimeters' diameter, which by means of rubber tubing, was brought in connection with an irrigating vessel of two liters' capacity above, and a catch vessel below, the former provided with a cold-producing mixture. A clamp-cock permitted or obstructed the flow of the latter. A thermometer of 5 millimeters' diameter connected with the copper cylinder showed a temperature of (0° C. to—5° C.) after a short interval of flow. In the middle of the cylinder throughout its entire length is a

* *Centralblatt für Physiologie*, May 11, 1889.

† Gad. Die Regulirung der normalen Athmung. *Du Bois Reymonds, Archiv.*, 1879.

metal tube, through which a copper wire of 3 millimeters' thickness and 160 millimeters' length is passed with light friction. The lower end of this wire is flattened and curved on the flat hook-shaped, so that the wire can easily be laid within and upon the same. The upper end of the wire is so fastened to the movable arm of a standard that the lower end can be easily moved about. The latter becomes cooled as soon as the cold-producing mixture begins to flow through the cylinder, and to differing degrees according to the position of the latter upon the wire.

The animals used were medium-sized and large dogs and one rabbit.

The dogs were narcotized by a hypodermic injection of morphine, and bound supine upon the table, with the rump toward the source of light. One recurrent laryngeal nerve was then prepared to a considerable extent, the trachea laid bare and an opening cut in it, leaving a window hanging by its superior border.

On raising the same, the glottis was directly to be seen from below, and easily observed. With outstretched tongue and raised epiglottis the vocal chords could simultaneously be seen from above by means of a reflector. In our later researches we have confined ourselves to the view from below as the necessary procedure is easier and less disturbing to the animal, while permitting exact observation.

With good narcosis, *i. e.*, not so slight that the animal will cry, nor so deep that the respiration is impaired, a regular opening and closing, is to be observed in the glottis. The opening takes place in inspiration to a varying but in general not very considerable degree. The distance of the arytenoid cartilages from one another is about one fourth to one fifth the length of the glottis. The closing follows synchronously with the expiration and lasts usually longer than the opening. Now and again there are deep sighing inspirations in which the glottis opens to its fullest extent. Upon occasional swallowing motions the larynx is raised. For the purpose of undisturbed observation it is desirable

to avoid all causes of reflex action, including sounds, since animals narcotized with morphine are exceedingly sensitive.

When we had convinced ourselves that the play of the glottis was normal, that therefore the preparation of the recurrent laryngeal nerve had not injured its conductivity, the same was placed upon the lower end of the thermode.

In order to prevent the cooling of the neighboring parts a rubber bag was placed upon them.

A short time, generally a half minute after the cold had begun to work upon the nerve, a change in the movements of the glottis took place. While the vocal chord of the other side continued its motions as before, that on the side of the prepared and cooled nerve, more or less entirely ceased its movements outward. The glottis at the moment of closure was normal and presented a straight line from before backward, but upon inspiration, the affected vocal chord remained near the middle or moved much less to the side than normal. We had therefore before us a case of median position of that chord, as we name it in man.

The action during the above mentioned sighing inspirations is a varying one. Sometimes we saw the chord concerned remain in median position and the glottis open itself only on one side to its fullest extent. At other times, the stronger nerve impulse, which occasioned the deep inspirations, overcome the hindrance caused by the cooling and the affected chord moved outward and at the end of the inspiration again inward to assume its median position.

A series of deep inspirations succeeding a spasm of the glottis can at any time be induced by blowing vapor of ammonia into the nose.

Upon removing the nerve from the thermode and bringing it back to the warmth of its natural bed, the vocal chord concerned resumes its normal motions after one to two minutes, just as before its cooling. A replacing of the nerve upon the thermode results again in cessation or diminution of the outward movements of the chord in exactly the same manner, which is also true of further repetitions of the procedure.

In order that the research shall succeed well, it is necessary, to keep the degree of the cooling within certain limits.

We have not directly measured the temperature of the lower end of the wire, upon which the nerve lies, but determine the required degree of cooling by observation of the vocal chords.

At the beginning of the research the cylinder is shoved high upon the wire, and then gradually lowered, until the chord takes the median position. After some repetition one learns about where this point will be ; but it varies nevertheless, as the action of the cold-producing mixture is not always of the same intensity.

On passing beyond a certain limit of the cooling, either in degree or in time, a cadaveric position of the chord takes the place of the median position.

We have considered as a median position only that in which the glottis lay exactly in a sagittal direction. So soon as it began to swerve toward the affected side we have considered it to cease to be. By observing the glottis from below it is not difficult to form a sure judgment of its direction.

In general, whenever a marked deviation of the glottis toward the affected side and a considerable overlapping of the median line by the other vocal chord were observed, when, therefore, a complete paralysis of the muscles of the one chord was present, a restitution of the integrity and normal motility of the same could still be affected by removal of the nerve from the thermode and replacement in the warmth of its normal path.

By a cooling of the recurrent laryngeal nerve not proceeding to freezing, therefore, it is shown that of the various muscles of the chords the posterior crico-arytenoid first ceases its function.

That behind the observed phenomena there is a cessation of muscular action and not a spasm cannot from the method employed be doubted. We especially note, moreover, that fibrillary contractions, such as are to be seen upon electrical excitation or freezing of the recurrent laryngeal, were not

to be seen by us in the chords, either upon the assumption of the median position, upon the transition to the cadaveric position, or upon the return to normal motility. Upon laying that end of the divided nerve in connection with the larynx upon the thermode, no change in the cadaveric position of the affected chord occurs upon degrees of cooling by which in the case of the undivided nerve a median or cadaveric position would be effected.

We have likewise frequently determined the minimum excitability of the nerve, for causing contraction of the chord by means of the induced current, applied to the cooled nerves, and have found, that when the chord is in median position, a much stronger current is necessary to produce contractions when the electrode is laid upon the nerve to the central side of the thermode than when upon the peripheral side. We therefore consider the median position of the chord from cooling the nerve as due to diminished nerve function, whereby the posterior crico-arytenoid muscle becomes paralyzed, and not as an excitation of the nerve.

This paralysis depends upon a hindrance to the conduction of incitation in the nerve fibers for the muscle named.

A PHYSIOLOGICAL PARADOX CONCERNING THE INNERVATION OF THE LARYNX.*

BY SIGM. EXNER.

The noteworthy fact has been recently published by H. Möller † that in the horse after section of a superior laryngeal nerve, which as was previously known, is motor nerve to no laryngeal muscle in this animal, the muscles of the larynx altogether on the operated side become markedly atrophied. He considers the named nerve, therefore, as the trophic nerve of the larynx on each side.

Since I have made the observation with reference to cer-

* *Centralblatt für Physiologie*, June 22, 1889.

† *Das Kehlkopfpeifen des Pferdes*, Stuttgart, 1888.

tain laryngeal muscles in man, that branches of the superior laryngeal are distributed to them, that these muscles upon section of the named nerve in the rabbit degenerate, but that excitation of this nerve does not cause contraction of them, I consequently in a short published note* accepted this view of Möller's, in that I attributed the effects of the section to the trophic action of the nerve, adding, however, to my communication, the words: "I leave it open as to how, in such a case, we are to consider the trophic innervation, and would with this expression only indicate the fact of the degeneration after section of the nerve, without maintaining that this action stands outside of all connection with the section of the sensor fibers from the larynx."

Since then, through the courtesy of the director of Instruction of the Imperial Royal Military Veterinary Institute in Vienna, Prof. Dr. Forster, as well as by the like friendly and helpful aid of the professors at this institution, Drs. Bayer, Latschenberger, Schindelka, and Struska, it has been possible for me to carry out Möller's experiment. It was hereby my intention only to convince myself of so far-reaching a fact as the proof of a trophic nerve; must one believe that now, finally, in the superior laryngeal of the horse we have really a trophic nerve? I might soon convince myself that it would not succeed better in my own case than in that of so many others before me, under whose fingers trophic nerves have disappeared.

In my own research I possessed the advantage not at hand to Möller, of the use of the promising laryngoscope for the horse, of Polansky and Schindelka, and also that one of the inventors, Dr. Schindelka, guided and supported me in my observations.

On the 15th of April of this year I prepared upon a healthy horse whose normal respiratory motions of the larynx were observed shortly before with the laryngoscope, the left superior laryngeal nerve, tied a thread to it and

* *Dieses Centralblatt*, March 2, 1889.

exited the peripheral portion. Simultaneous observation with the laryngoscope showed no trace of adventitious laryngeal motion; the finger laid externally upon the cricothyroid muscle also revealed no contraction. A piece of the nerve five centimeters long was now excised. While the animal still lay an apparently total paralysis of the left vocal cord showed itself. The wound was sewn together and half an hour after the operation the animal again examined while standing (it had not been narcotized). The glottis was on both sides wide open; there were no spontaneous respiratory motions to be observed in the larynx, but one could excite them by lightly blowing into the nostrils; there was then an energetic effort at closure on the part of the right vocal chord; the left chord and the left arytenoid cartilage remained perfectly still.

I saw the animal in the course of the next week repeatedly and the condition revealed by the laryngoscope remained essentially the same. The paralyzed vocal chord was, during this time, nearly in the cadaveric position. If one excited the animal as above to energetic movements of the larynx, the left still remained at rest while the right chord, by overlapping the middle line, was able to bring about a total closure of the glottis.

Repeatedly it appeared as though the left chord made slight movements, at least the arytenoid cartilage moved a little outward, yet we could not decide whether the movements were passive ones transmitted from the sound side or not.

The animal was killed on June 1, six weeks after the operation. Two days before this I used it for a re-test, in that I prepared the right superior laryngeal and tied it. At this moment the movements of the right chord ceased. Upon excitation of the peripheral portion of the nerve, the laryngoscope revealed no movements, and indeed, also when the current was so strong that the external laryngeal muscles became contracted and the larynx moved as a whole. After cutting the nerve and sewing up the wound, I examined the animal again and convinced myself then as well as

on the next day of the double sided paralysis, although upon very energetic excitation traces of movement of the vocal chord were to be discerned upon the right side; traces concerning which I have no doubt, but which were so slight that other observers were uncertain. Very striking, however, were twitching movements of the epiglottis toward closing the larynx.

The post-mortem examination revealed a reduction of the crico-thyroid muscle on the left side to a visible degree and the same with yellowish coloration of the posterior crico-arytenoid of the same side, just as found by Möller. The precise investigation of the larynx will, with further experiences, be made the subject of a later common publication.

It remains to be mentioned that Profs. Latschenberger, Schindelka, and Struska, incited by my first operation, have carried out upon another animal excitation and section of the superior laryngeal nerve, and obtained the same result, and, furthermore, that I was witness as these gentlemen performed excitation of the inferior laryngeal and cut the same. The excitation yielded the most intense movements of the vocal chord, the section of the nerve, a paralysis, apparently the same as I had obtained from the superior nerve.

We stand, therefore, before the certainly paradoxical phenomenon, that muscular paralysis may be produced by the section of a nerve, the electrical excitation of which brings forth no muscular contraction.

The question arises how one is to bring this into agreement with our other knowledge. I hope that this question will be answered within not too long a period on the part of those investigators to whom the horse is a more common subject of research than to myself; at present, it may be permissible to express a supposition upon the facts. The superior laryngeal nerve, the branches of which I have observed to enter and branch within almost all the laryngeal muscles in man, is the exquisitely sensitive sensor nerve of the larynx, *i. e.*, of its mucous membrane and of its muscles, as we may conclude in this case from our anatomi-

cal knowledge. If, now, upon section of the nerve, all sensor functions cease, and movement in the parts no longer produces the sensation of movement belonging thereto, the movement itself will suffer. We are reminded of the frog whose motility is impaired after section of the posterior roots of the spinal nerves, and above all of the patient with anæsthesia of an upper extremity, who, without seeing an object, cannot hold it in the hand, and indeed with closed eyes cannot close his fist nor raise his arm; these, then, may be considered the nearest related facts to those here before us. In other words, they concern the severest form of ataxia. Has not Goldscheider, indeed, recently shown the importance of the cessation of the centripetal impulses for this group of motor disturbances?

It is certainly remarkable that just in the case of the larynx, the innervation of which we are accustomed to consider as symmetrical and synchronous, the one side should become ataxic so independently of the other. It is, however, to be noted that we are not in the position to maintain that the movements in the larynx on the healthy side are completely normal; certain muscles or muscle-fiber bundles could have ceased their action; indeed, the circumstance that after section of one superior laryngeal in the rabbit certain fiber bundles are found degenerated on both sides is also of weight.

I may not omit to note also that I have had the opportunity to observe the great importance of the sensory impressions of the larynx for its movements. At the above mentioned experiment upon the effect of the excitation of the recurrent laryngeal, I saw that every time when in consequence of the electrical excitation the chord moved toward the median line, the other one did the same, but somewhat later and less energetic. It conveyed the impression that through the sensory impression, which the movement of the first occasioned, whether in the mucous membrane of the other side or on the same side, the movement of the other chord was reflexly occasioned.

It appears to me therefore, that, if we assume for the

horse a more considerable dependence of the motility of the larynx upon its sensibility and a greater independence in its powers of movement within its two halves than we are accustomed to, according to our experiences in man and animals generally, the peculiar fact detailed is to be considered as an ataxia. But the degeneration then of the laryngeal muscles after section of the superior nerve, observed in the horse by Möller and by myself, is an atrophy from inactivity, and there appears to me nothing left to justify the assumption of trophic fibers. The destruction of the sensory fibers had in an indirect manner brought about trophic disturbances.

INJURY TO THE BULBUS CAUSING TRANSVERSE RUPTURE OF THE IRIS AND OF THE ZONULE.

BY F. H. BOYNTON, M.D., AND H. H. CRIPPEN, M.D.,
NEW YORK CITY.

R. B., æt. thirteen reported, November 10, 1890, at the clinic of Dr. F. H. Boynton, New York Ophthalmic Hospital, as having been struck on the left eye by a leaden bullet projected from a bean shooter. By oblique illumination the outer segment of the cornea was found slightly hazy, presumably the point of contact with the bullet; the anterior chamber contained a small hæmorrhage from a rupture of the iris in its outer segment, opposite the corneal haziness. The iris was found torn from the pupillary border to the periphery. The pupil was slightly dilated and irregular. Ophthalmoscopically the fundus appeared normal, but the zonule was torn opposite the point of injury, allowing the lens

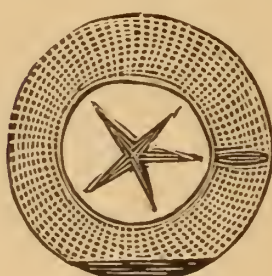


Fig. 1.

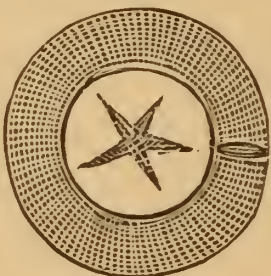


Fig. 2.

to tilt and the iris to become tremulous. Both the anterior and the posterior capsule were cloudy in radial lines (Fig. 1) from absorption of aqueous. With the ophthalmoscope the rupture in the iris appeared as a red line,

from the transmission of the reflection from the fundus. Visual acuity was reduced to inability to count fingers at a greater distance than two feet.

On November 15, the hæmorrhage into the anterior chamber had disappeared, leaving a few crystals of cholesterine about the line of rupture. From this date onward the radial lines of opacity in the anterior and posterior capsules became more and more indistinct, spreading out as dotted opacities, until at the present date, December 9, the appearance seen in Fig. 2 is presented. At this time V.O.D. $\frac{2}{20}$. V.O.S. $\frac{2}{70}$.

ESERINE AS A THERAPEUTIC AGENT IN SPASM OF ACCOMMODATION.

BY N. L. MACBRIDE, M.D., O. ET A. CHIR., NEW YORK CITY.

Eserine is an alkaloid derived from *Physostigma* (Calabar bean). The ordeal bean of Calabar, in Africa, was obtained in 1865 by Veè and Levan. It forms colorless tabular crystals of a bitter taste, readily soluble in ether, alcohol, or chloroform, but sparingly soluble in water. On this account one of its salts, either the sulphate or salicylate has been preferred by oculists. The salicylate being the more stable salt, the sulphate, the more soluble in water. Their toxic and therapeutic effects, at least as regards the eye, appear to be the same as that of the alcoholic extract of Calabar bean. It was from the extract that our knowledge of its action on the eye was first derived. Th. Fraser was the first to discover its action on the pupil, and Argyll Robertson that which it has on the accommodation. Donders, Hamer, De Wecker and others have added to our knowledge of the drug. Solutions of any preparation of *Physostigma* introduced into the conjunctival sac, act at once on the diameter of the pupil, and the state of the accommodation. Their influence upon the sphincter iridis is, however, much more prompt and energetic than that upon the ciliary muscle. Doses that are too weak to change the contractility of the latter, suffice to cause myosis, and this myosis when produced by strong doses still persists long after the action of the drug upon the accommodation has entirely ceased.

The effect of Eserine upon the ciliary muscle is very

curious. Weak doses stimulate its contractility and increase its energy without producing any spasm. They, therefore, act on the punctum proximum, permitting it to come nearer to the eye than it is under purely physiological circumstances, without altering the position of the punctum remotum. Hence the amplitude of accommodation is thereby increased. The effect of stronger solutions dropped into the eye is to cause, as their maximum result, a marked diminution in the distance of the far point from the eye, in other words, the punctum remotum is relatively nearer the eye than the punctum proximum. Hence the range of accommodation has been diminished, having lost more at its far end, than it has gained at the near. But it is to be noticed that, at least in the case of young persons on whom the experiments have been made, no amount of the drug that can be used with safety to the life of the patient, has been powerful enough to bring the punctum remotum sufficiently near to make it coincide with the punctum proximum. The will has, therefore, always retained a certain power over the accommodation. Taking these symptoms in connection with the spasmodic contraction of the internal rectus muscle caused by this drug, they give us an almost perfect picture of spasm of the accommodation. In fact, they present a very fair, though limited proving. These symptoms must not be looked upon as being produced by the local action of the drug, for the Eserine does not come in contact with the ciliary body or the iris until it has been absorbed by the conjunctiva and cornea. They are, therefore, truly physiological. I have noticed a confirmation of this in a case of accidental poisoning by swallowing a solution of Salicylate of Eserine. With this proving of the drug, we would expect, that, according to the law of therapeutics, it would be curative in cases of spasm of the accommodation, and I have found it a very valuable agent in the treatment of such troubles. During the past ten years, I have prescribed it in many hundreds of cases of spasm and weakness of accommodation complicated with asthenopic symptoms. The great majority of these cases

were relieved permanently. The results were most gratifying in young hyperopes of slight degree, suffering from headache and general asthenopic symptoms, complicated with spasm of accommodation, who did not wish to wear glasses on account of the objection raised by their employers, or on account of the disfigurement and humiliation of having a defect paraded before the public by the use of spectacles. These objections from the patients demanded some other method of treatment than the use of glasses, to correct the hyperopia. A prescription of Eserine 3d c. three times a day, for some weeks or months, relieved in most cases the spasm of accommodation, the headache, and the general asthenopic symptoms, and enabled the patients to go without glasses until they were older, less sensitive and more independent of public opinion. In the weakness of accommodation following pregnancy or any prolonged illness, and also in cases in which the refractive error has been corrected by glasses but the asthenopic symptoms persisted, Eserine 3d has been of great value in curing the patient.

The knowledge I have obtained of the curative effects of this drug in the limited sphere in which I have used it, tempts me to predict a brilliant future for it, in the treatment of general nervous affections, after a careful proving of it has been made.

POSITIVE PROGNOSIS.

BY A. C. PETERSON, M.D., SAN FRANCISCO.

Among the varied and prominent attributes that are inseparable from the name physician, the one that arouses the most concern, usually, is the physician's ability of exercising a clearness of prophetic vision, that penetrates down the vista to the end with unerring acuteness. The verdict is pronounced, and, if accepted as infallible, the prediction carries with it that which animates and cheers or that other which bids hope begone. A fund of human experience has evolved the saying, "Nothing is so uncertain as a sure thing"; an expression more trite than elegant, yet when ultimate facts fail to justify a positive prognosis, where is the physician that has not felt the qualms of mortification as he views the perverseness and failure of a "sure thing," and the serious damage to his prophetic reputation?

A few years ago, I was called in consultation to give an opinion in a case of ophthalmia neonatorum. The disease had run its course, ulceration and perforation of the cornea had wrecked the organ of vision, and the eye-ball was apparently passing into an atrophic condition, and an unsightly stump of a globe was a question of but a few weeks at best. My partner and myself felt perfectly assured of the ultimate result, and so informed the family physician. About three months later I chanced to see the child, and found the diseased eye-ball filled out to a size corresponding to that of the other; there was no sight, of course, but the eye "kept up appearances" well, and all due, according to the parent's statement, to "drops" used by an old school oculist.

A woman in the country contracted gonorrhœal ophthalmia,

and came to San Francisco and remained two months in the German hospital, cultivating an intimate acquaintance with blue stone. At the end of that time, her sentence was pronounced ; viz., that she might as well go home and be cheerful, as she was blind beyond hope of recovery. She was persuaded to try other means of treatment. When first seen the eyes were fair imitations of raw beef, while memory was all there was left of vision. The prognosis was guarded, and the patient went home to take *Rhus tox.* ix internally, and use dilute fluid extract of *Calendula* topically. The result was that at the end of a month large-lettered signs could be indistinctly seen across the street, and as time went on large type could be deciphered. This was the condition of things when the patient was last heard from, about five years ago.

Rhus tox. has been of signal service in a very remarkable case of abscess in the lower segment of the cornea, with central staphyloma of Descemet's membrane. The pain was intense, and the nervous tension wrought up to the highest pitch. Pressure was brought to bear upon the sufferer to have the eye removed. Two eminent old school oculists said it was the worst eye they had ever seen, and predicted sympathetic inflammation within ten days, with the most positive assurance. The patient, a pretty young girl, under my care, was loath to have the eye removed. *Rhus tox.* tincture internally, and eserine topically, with an occasional opening of the staphylomatous protrusion, brought about a quiescent state of things and saved a pretty fair looking eye, which has stood the test of three years.

I am at present interested in watching the progress of a patient whose case has been repeatedly examined by aurists, who maintained that, as the chronic catarrh of the middle ear was complicated with ankylosis of the stapes, there was no possibility of relief, either of the deafness or the tinnitus aurium. A friend brought the patient for examination. After which I was not inclined to doubt the prognosis that had been given ; but the patient was willing to try, and I made no promises. After two months' treatment, consisting in employing, beside internal remedies, a solution of *Kali bichromicum* and carbolic acid, applied to the posterior nares and vault of the pharynx, followed with inflation of the middle ear immediately, changes soon took place. Improvement has been marked. Sounds heretofore inaudible began to materialize, such as ticking of clocks, ringing of bells,

etc. ; the understanding of spoken words has been markedly benefited ; the appreciation of the direction of sounds in the street is especially noticeable to the patient. The tinnitus disappears entirely at times and is greatly modified as a whole. A den-tiphone, used for years, is becoming unsatisfactory, as aerial conduction becomes more complete. Whether there may yet be a farther improvement is, of course, beyond the ken of any one, yet such seems probable.

The shock of a positive, unfavorable prognosis has worked untold injury to sensitive mortals, and oftentimes, doubtless, gives an impetus to a disease that might, if not be cured, at least be mitigated. Emphatic opinions, lacking a gentle discretion, may be given honestly and with the best of intentions, but honesty and good intentions are essentially human, and "to err is human."

THE ACTION OF REMEDIES UNAIDED IN DISEASES OF THE THROAT AND NOSE.

BY J. B. GARRISON, M.D., NEW YORK CITY.

When a pair of hypertrophied tonsils, especially if bearing with them a history of chronic enlargement, are viewed by light reflected from a mirror upon the forehead of a physician who attempts to do some special work in laryngology, the guillotine, or the galvano-cautery, are generally immediately suggested as the best means of relieving the condition.

Indeed, I am afraid that many of us are too apt to forget that the remedy properly selected will produce, even in diseases of the nose and throat, results striking enough to please both patient and physician, and amply repay for the time spent in the study of the case.

About five years ago I was visiting a patient, when my attention was called to a visiting friend, a lady of about nineteen years, who was passing through an attack of tonsillitis suppurativa, evacuation occurring spontaneously about that time. Asking what treatment she was under, she said the ordinary home treatment, as she always had it six or seven times every winter, and doctors never seemed to help her through any better than when she used salt pork on the outside, and hot gargles on the inside, on her own responsibility. She had concluded to look upon the quinsy as inevitable as soon as the weather became cold, and submit to it, and her own treatment, saving, if not pain, at least the physician's fees.

I asked her if she had ever taken any homœopathic medicines for her condition, to which she answered she had not.

Becoming somewhat interested, she asked me if I thought I

could give her anything that would cure her. I answered by saying that I thought if she would place herself under my care, and promise to let me see her as often as I thought necessary until the next winter,—it now being March,—I could safely promise her much less trouble than she had had since acquiring the habit of the constantly recurring sore throat.

Upon her requesting me to do so, I prescribed for her immediate condition, and in a short time she was well enough to present herself at my office for the beginning of what she and I hoped would prove a successful treatment.

Both tonsils were greatly enlarged, and both had at various times been the seat of the suppurative process, and they looked bad enough for the action of a simple remedy. My prescription was a small powder of Baryta carb. 3d, to be taken three times a day, before meals ; to report to me in one week. For the first month she came once a week and received the same prescription, I instructing her to take a powder morning and night the last two weeks. From then till the following winter she came to see me about once a month, and was supplied as needed with a vial of No. 25 pellets, saturated with the same remedy of the 30th dilution, taking a dose of five pellets once a day. After the first two weeks there was a noticeable decrease in the size of the amygdalæ, and by winter they were, while yet still easily visible, quite soft and healthy looking.

Up to two years ago she had never had a sore throat, although she exposed herself to the daily changes of the weather, having in the course of her business, which was dressmaking, to walk some ten blocks morning and night. Since then I have lost sight of her and do not know of her condition.

Another case of enormously enlarged tonsils in a child three years old came under my notice a year or so after this, in which the glands were increased to such a size that there was only a small chink between them for the passage of air.

While the child was comparatively well no therapeutic measures were instituted, but upon a sudden change of weather she took cold, and in a few days she was a great sufferer from an acute rhino-pharyngitis. The tonsils now were in apposition, and respiration was carried on entirely by means of the mouth. The discharge from the nose was corrosive, and the alæ and upper lip became so sore that the child cried in her agony.

Several remedies were tried without success, when on looking over the case with my friend Dr. Martin Deschere, the use of *Lycopodium* was suggested. The drug was thought of from the stoppage of the nostrils, acrid discharge, swelling of the submaxillary glands, and also from the clinical results in the past on cases somewhat similar to this one. A small powder of the 30th was dissolved in eight tablespoonfuls of water and one teaspoonful given to the little girl every two hours. The result was to me, surprising, for in twenty-four hours the child was able to breathe partially through the nose, and in one week she was entirely well, and has never been troubled with her tonsils until this winter, when they became a trifle sore from taking cold, but one prescription of the same remedy cured her.

By the way, the symptom of "a sensation as of a ball in the throat, which cannot be swallowed or ejected," I have frequently relieved by the administration of a few doses of *Lyc. 30*, even when it has persisted for a month or more.

There are many cases in which I have earnestly sought for the proper remedy in these cases of tonsillitis hypertrophica, and have failed to give any relief until the galvano-cautery was used; this has in every case except one, promptly reduced the gland to a size no longer troublesome, but I am afraid there have been cases where I might have studied more and prescribed more to the credit of the school of homœopathy.

I trust we may all of us strive to cure wherever possible by means of the homœopathically selected remedy, and leave the surgical measures for our last resort and for those of those other schools who do not believe in "*Similia Similibus Curantur*."

TWO CASES OF PERSISTENT PUPILLARY MEMBRANE.

BY GEO. A. SHEPARD, M.D., O. ET A. CHIR., NEW YORK CITY.

Although cases of persistent pupillary membrane cannot be considered rare, yet they are by no means common. It therefore seems advisable to place the following upon record, especially the first case, which was unusually extensive.

CASE I.—Last June I saw Frankie S., aged three years, in Dr. Geo. S. Norton's clinic at the New York Ophthalmic Hospital. He was brought by his mother on account of a convergent squint of the right eye, which had existed for six months. On examination a variable convergent strabismus of the right eye was observed. Both pupils were partially covered with strands of the same color as the iris, which arose from a network, covering the outer half of the iris, nearly all of which were attached to the lens capsule, though a few floated free in the aqueous humor. In the right eye several strands were bound together by intervening fibers. When the pupil was contracted the fibers were lax and irregular, but when dilated they were tense and straight. The iris was perfectly mobile. Some opacity of the capsule of the lens was present in each eye, being much more extensive in the right, almost covering the pupil when contracted. By the ophthalmoscope no abnormal changes could be detected in the fundus. Retinoscopy showed hyperopia in both eyes.

The boy was exceptionally bright for his age. From his aunt I learned that before his birth his mother had tried most violent means to end the pregnancy. There were two girls in the family, about eight or ten years old, that were perfectly formed so far as could be learned.

Figs. 1 and 2 show the membrane in each eye during moderate dilatation of the pupil.

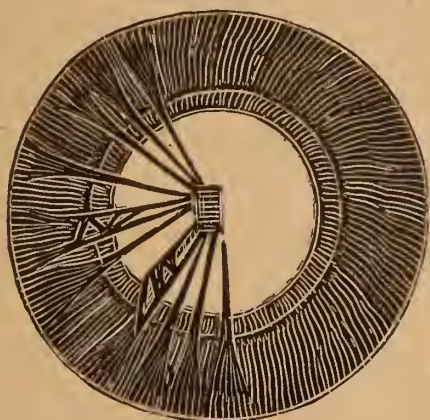


Fig. 1.

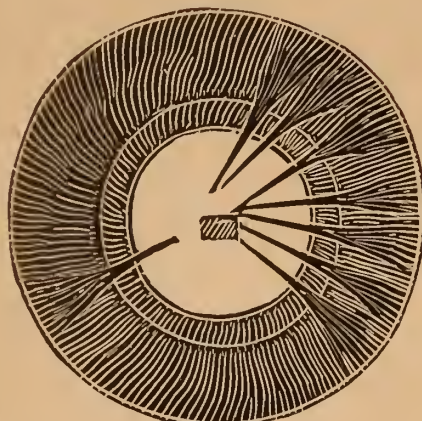


Fig. 2.

On November 11, the boy was again seen at my office. The right eye then turned in all the time. R. V. $\frac{15}{100}$, L. V. $\frac{15}{30}$. + 72 cleared vision somewhat and made the eyes more comfortable, so they were prescribed to be worn all the time.

CASE II.—October 31, 1890, Walter J., eight years of age, was brought to Dr. Norton's clinic, complaining of poor vision in both eyes. A test of the vision gave $\frac{20}{200}$ o. u.—12, V. = $\frac{20}{70}$. When looking directly at the eyes, nothing abnormal could be detected, but by oblique illumination, a single strand could be seen stretched across the pupil of the right eye, from about the middle of the anterior surface of the iris. Examination of the fundus did not show pathological changes to account for the loss of vision. The refractive media were clear.

Fig. 3 shows the right pupil moderately dilated, when the

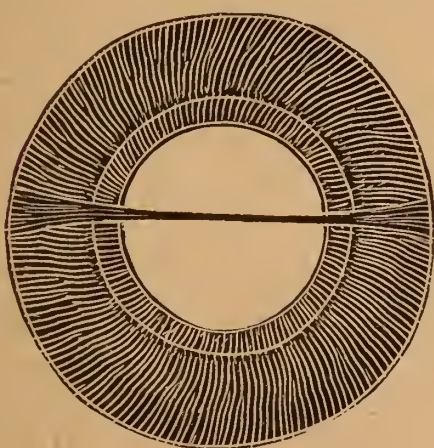


Fig. 3.

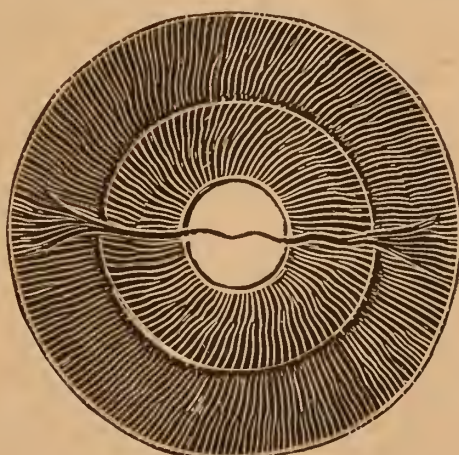


Fig. 4.

strand is tense. In Fig. 4 the pupil is contracted, when the band appears lax and irregular.

A CASE OF ATROPHY OF THE OPTIC NERVE RESULTING FROM THE ALBUMINURIA OF PREGNANCY.

BY CHAS. C. BOYLE, M.D., O. ET A. CHIR., NEW YORK CITY.

Mrs. S., aged thirty, came to see if her vision could be improved. The test of vision gave : R. V. = $\frac{20}{70}$; L. V. = $\frac{40}{200}$, no improvement with glasses. The ophthalmoscope showed a gray atrophy of both optic nerves. The retinal vessels were diminished in size and in number, especially in the left eye where the atrophy was more marked. History was as follows : Six months ago the sight commenced to fail at the seventh month of pregnancy and was accompanied by albuminuria. In a very short time she became almost blind, when her family physician produced a miscarriage. Since then he had been treating her for kidney trouble, which she now states has disappeared. There has also been considerable improvement in her vision, which must have been greatly impaired considering her present vision.

Remarks.—Permanent loss of sight, due to atrophy of the optic nerve from albuminuria without retinitis during pregnancy is not of very common occurrence. This case was probably not due to a regular neuro-retinitis albuminurica, because, as a rule, it does not accompany acute kidney disease, being more apt to result from chronic nephritis. Again, the retina did not present any traces of changes from retinitis which it probably would have done so soon after the origin of the trouble, about six months. Also the outlines of the optic nerve were too well defined and not blurred as would be expected in a severe case of neuro-retinitis.

More than likely the atrophy was due to an acute œdema of the optic nerve ; the cause of which was undoubtedly the

kidney trouble. The œdema produced a choked disc, and, finally, by its pressure on the nerve fibers, caused an atrophy.

As I remember the history, the physician waited until she was almost blind before producing labor. There were no convulsions; the probabilities are, that if he had had her eyes examined by the ophthalmoscope when the sight was first affected, the seriousness of the trouble would have been recognized and labor immediately produced. In this way more sight could probably have been saved, perhaps perfect vision, as the pressure would not have been continued long enough to cause such serious pathological changes.

This case illustrates the importance of having an ophthalmoscopic examination of the eyes made in all visual disturbances during pregnancy, and if any serious changes are discovered, to have the uterus emptied at once and not wait for further developments, as some are very much inclined to do. It must be remembered that not only the sight of the patient is at stake, but also the life.

CATARRHUS NASALIS FŒTIDUS.

BY H. WORTHINGTON PAIGE, M.D., NEW YORK CITY.

Commonly called ozæna, although traveling under a variety of terms ; but ozæna, like the traditional rose "by any other name would smell as sweet." It is not my purpose nor intention in this short article to give a treatise upon my subject, but only to offer a few ideas of its treatment based upon my own experience, with the remedies and methods here mentioned. The symptoms and condition are characteristic ; the atrophic and generally anæmic rhinal mucous membrane ; the cavernous nasal cavity, with dry greenish-yellow or brown putrefying plugs and masses, lodged and adherent to all the nooks and hollows of the nasal fossæ, particularly about the turbinated bones ; the dry, glazed post pharyngeal wall and vault ; the voice with a nasal twang or husky phonation from deposit of inspissated mucus on the chordæ vocales ; the frequent concomitants of excoriated nostrils and scurfy eyelids ; over and above all the superlative, penetrating fetor which commands the attention if not the respect of all present. This group makes a picture familiar to all physicians. It is the " Waterloo " of the general practitioner and the "*bête noir*" of the specialist. The treatment of ozæna as far as a cure is concerned is not satisfactory for various good reasons, but in point of comfort to the patient and his friends it yields gratifying results, for under the proper treatment he can receive prompt relief and be made comfortable and presentable—a happy condition that does not exist without it. Patients with this disease are largely from the lower walks

of life, especially as found in large crowded cities. More common among females and between the ages of fifteen and twenty-five. Those over-worked, ill-nourished people who live in poorly ventilated or otherwise unhealthy homes. Added to this a peculiar constitutional dyscrasia. Cases occurring among the other classes are the exception and in them the strumous diathesis is usually well marked. In this writing I do not include the more malicious and destructive ozæna syphilitica, although much here said applies to that condition also. I believe this disease curable in the majority of cases, if in addition to treatment the patient could be removed from the unhealthy and depressing environments, and given a change of air and scene in a stimulating atmosphere,—some healthy sea-side locality, where there is plenty of ozone with little dryness. Good hygiene, then, is a most important and necessary adjuvant to successful treatment. Unfortunately, the rank and file of these sufferers are unable through poverty or ignorance to take advantage of it. The physician can only advise them earnestly to observe the laws of health, and insist that they conform to them in as far as they are able. According to my observation many ozæna patients (all honor to the exceptions), are personally untidy. How deep this extends I do not know. The skin of the hands is apt to be thick, “muddy” and pimply. I advise frequent bathing to stimulate the circulation and excite the skin to healthy action. I also endeavor to maintain a free daily movement of the bowels. In addition to this, good, plain, nourishing food, plenty of exercise in the open air, free ventilation of living and sleeping rooms, with temperance in all things. The indications for treatment are three-fold, *i.e.*, cleansing; protective alterative applications; and internal medication.

Cleansing.—It is absolutely necessary that the nasal fossæ be kept clean. Too strong emphasis cannot be laid on this point. Without cleanliness one can accomplish nothing. To secure this the cleansing must be thorough and frequent. The frequency depends upon the condition. The mucous membrane must be kept free of scabs and

putrid deposit and it must be attended to often enough to insure this. In most cases it is required every other day and in many a daily cleansing is necessary. A word here of auto-treatment. Many author-specialists, to my surprise, heartily recommend to patients with ozæna the hand atomizer, the nasal douche, and the bulb posterior nasal syringe designed for domestic use. The hand spray may serve to partially relieve dryness, but as a *cleanser* in the hands of the laity it is very inefficient, as it is impossible from the anterior to direct a spray back of the projections where the greatest deposits gather and harden. The nasal douche lacks force to dislodge the adherent scabs and is open to much the same objections as the pernicious salt water snuffing habit. In many cases I have found the douche productive of severe headaches and in some, lachrymal troubles. Few people learn to use the domestic post nasal syringe satisfactorily, safely, or judiciously. The local treatment should, in the main, be done by a physician. If the patient is poor I try and make some financial arrangement whereby I can see him as often as necessary and find that it pays in results for both. The two methods in vogue for cleansing are the atomizer spray and the posterior nasal syringe. The spray is convenient and efficacious in many conditions which the rhino-laryngologist is called upon to treat, and the great moral impression made upon the patient by the presence of a big, plethoric, sissing, nickel-plated condenser cannot be gainsaid. But for thorough work in cleansing of the nasal cavities I much prefer the simpler but less elegant post-nasal syringe. Much is said of the injury wrought by its use, but when properly and carefully manipulated by intelligent hands no unpleasant effects will follow. This method, 'tis true, is not as pleasant for the patient or the physician as the spray, but to dislodge the adherent masses of inspissated and putrefying mucus, and to thoroughly cleanse the surfaces, nothing equals it. There are many solutions formulated for this purpose. The saline and carbolyzed mixtures; Dobell's or Seiler's solutions, and "Listerine" are the most popular. The objection to most

of these is that they possess drying or astringent qualities, which is decidedly contra-indicated in the atrophic condition already existing in ozænas generally, although in some cases such an action is desirable. As in other diseases what will help one will not relieve another, and the physician will have to suit the treatment to the individual case. I think nose and throat specialists above all others are apt to get into an unfortunate and unprogressive rut of routine treatment, as there is in general much similarity in the average run of cases. For a solution combining the valuable properties of antiseptic, alterative, and stimulant, and for giving prompt sense of relief to the patient I have found nothing to equal this formula used by Dr. C. E. Beebe.

R	Phenol-sodique (French).....	gtt. x
	Sodium chloride.	gr. xxx
	Glycerine.....	3 i
	Aqua.....	3 iv

This, used warm with the post nasal syringe, is very gratifying in its results. I have also used with excellent success a solution of hydrogen peroxide 1-3. This is particularly valuable as antiseptic and deoderizer and where there is ulceration. Insufflation of powders I have found more injurious than useful. It tends to greatly increase the dryness and the particles of powder uniting by the moisture make the best of nuclei to favor the formation of further offensive plugs of deposit.

When it is necessary to apply iodoform or other powder to ulcerations the application should be limited to the ulcerating surface as much as possible. After a thorough use of the syringe some of the scabs may be found still adherent to the mucous membrane, particularly anteriorly. These may be sprayed off, but I usually prefer to remove them carefully with a ring probe.

Local Application.—When I can assure myself that the nasal cavities are thoroughly clean, I apply with cotton on an applicator some protective or stimulating emollient thoroughly to the surfaces. Fluid cosmoline, olive oil, plain “Benzoinol” or a solution of Menthhol in “Benzoinol” ten

per cent. This latter was first used to my knowledge by Dr. Malcom Leal in his clinic in the N. Y. Ophthalmic Hospital. I have found it particularly pleasant and effective. It is powerful, antiseptic, stimulating, anæsthetic, and deoderizing. Is agreeable to the patient and prevents such rapid re-formation of the crusts. A few drops of tincture of musk is an agreeable addition to its deoderizing properties, for those who like musk. "Glymol" and "Albaline" are also excellent applications and vehicles for medication. There is a new and elegant preparation of iodoform in "Benzoinol," two grains to the ounce, which seems a pleasant and effectual method of using this drug, but cannot speak positively of it, as I have only used it a few times.

These oils may be applied thoroughly and pleasantly vaporized by the atomizer. The oil menthol application and the syringing will also relieve the distressing nasal and pharyngeal dryness. This whole process should be repeated as often as necessary to prevent the formation of deposit. In addition I direct the patient to use twice or three times daily in the nose, vaseline, camphorated vaseline, or menthol vaseline, 5 per cent. I much prefer the latter preparation and use the white vaseline in all. Some advise the patient to melt the vaseline and apply it by cotton on an applicator or tooth-pick. The sensation of passing anything back in the nose is so unpleasant that few will do it thoroughly for themselves, so I direct the patient to gently snuff a lump of the oleate the size of a pea, well back in the nose, both sides. I find this efficacious. The yellow vaseline will not always melt in the nose by this method, but the white will.

Internal Medication.—I mention this last not because it is unimportant, but because I believe that without thorough local treatment the internal remedies will avail but little. With all respect to my friends who are skillful and enthusiastic prescribers but anti-adjutantists, I fear their treatment will not meet with laurels in this common but exceedingly obstinate complaint. Thanks to our materia medica, we are undoubtedly ahead of the old school in the treatment

of ozæna, for, while they depend wholly upon hygiene and local treatment with a few general tonics and alteratives, we possess remedies which are not only tonic and alterative but which have a specific local action on the disease, which we appreciate and understand sufficiently to exhibit our medicines intelligently and with a greater degree of success than the old school.

I have found in many of these cases cod-liver oil in emulsion and the malt preparations of decided benefit. When the constitutional dyscrasia is well marked the various salts of Ferrum, Natrum, Calcareæ, Kali, with Sulphur as indicated are valuable and give good results.

The remedies I have personally used for ozæna are not numerous. In addition to those already mentioned, those giving the best results in my hands have been Kali b., Kali iod., Aur. mur., Merc. prot., Calc. carb., Hydras. mur., Puls., and Sulph. Others are frequently indicated and used. I have given these remedies in the low potencies, generally the first centesimal. This writing embodies in the main what I have done and do in most cases of ozæna. I only regret having lost all the records of my startling cures, but I am patiently looking forward to the day when some one of my colleagues in the Ophthalmic Hospital discovers the proper ozæna-annihilating lymph, when, the dryness, plugs and fetor will melt away before the magic of the little hypodermic.

SYMPATHETIC AFFECTION OF THE EYES FROM SUPPRESSION OF THE MENSES, WITH RE- LIEF BY VICARIOUS MENSTRUATION FROM THE BOWELS.

BY CLARA C. PLIMPTON, M.D., NASHVILLE, TENN.

Mrs. W. gave birth to a child in November, and was admitted to the Home in February ; both she and the child being rather delicate. She then had considerable tendency to bowel trouble, probably from change of water. In May, she, with twenty others, had a mild attack of measles ; bowel complication was present and was a feature of the epidemic. Her child died June 27. On July 18, before time for her menses to appear, she was taken down with typho-malarial fever, with the usual symptoms of a comparatively mild case. This condition continued until about August 1, when she commenced having frequent stools with some pain and straining. On the 1st of August she passed probably a pint of clear blood from the bowels. I looked for serious results, but failing to find any alarming symptoms or weakness naturally to be expected, I decided it was vicarious menstruation. Hemorrhage continued to accompany every stool for about three days. She convalesced well and was entirely free from fever or other symptoms by the middle of September. But now there developed an entirely new feature : Intense pain in both eyes all the time, with utter inability to use them or bear the light. The pain was sharp, causing ciliary neuralgia and headache. The glare and dazzling was not at all alleviated by blue glasses or any medical treatment. I prohibited all use of the eyes, hoping that with returning health and strength the trouble would be relieved, and it was relieved, but quite unexpectedly. October 1, she had another attack of bowel trouble, commencing like dysentery, but immediately developing a similar condition

of vicarious menstruation, but not so profuse as before, and with a good deal of uterine pain. In about three days she was up and with entire relief of the eye symptoms, except slight dimness of vision at night.

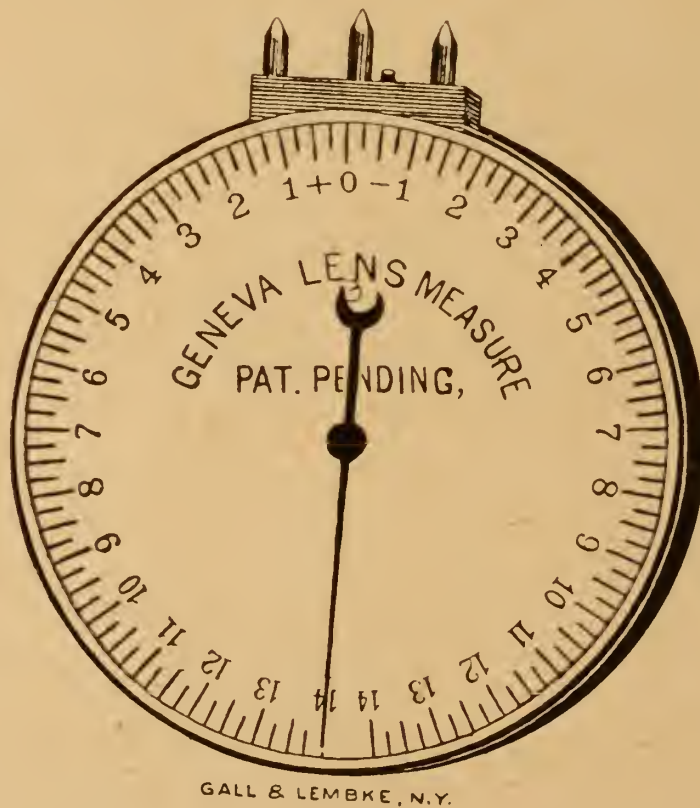
Dr. Sinclair, one of our prominent oculists, kindly examined her eyes, and found congestion of the choroid and retina with slight paleness of the optic disk. It is about time for another period to return, after which she will have another ophthalmoscopic examination.

I cite this case as of interest in two particulars : the vicarious menstruation, and the intimate connection between uterine troubles and the eyes.

A NEW LENS MEASURE.

BY F. PARK LEWIS, M.D., BUFFALO.

I have had recently brought to my notice through the courtesy of Messrs. Gall & Lembke of New York, an instrument so ingenious and so practical that a description may interest those who have not seen it. It is for the rapid and accurate determination of the focal power of lenses; and for



those who have spent minutes in neutralizing compound glasses, a machine that will accomplish the same result with greater certainty in as many seconds, will prove a desideratum. The simplicity of the measure will at once commend

it. It consists of a circular case on which is a graduated dial, marked in plus and minus dioptries divided in quarters, and registered by a delicate index. This is moved by a spring within the case.

From the upper portion of the case extend three posts, the outer ones being stationary and the center one attached to the spring. The lens to be tested is pressed against the three posts, and the radius of curvature, whatever it may be, is indicated upon the dial. If the surfaces are both convex or concave the number of dioptries shown in the dial are added to get the total focal distance. If periscopic, the less is taken from the greater and the difference indicates the measure. If cylinders are employed the lens must be turned, till the focus and angle are discovered.

The readiness of application and the certainty of the result makes the instrument of great value to all who have to do with the adjustment or manufacture of spectacle lenses.

The accompanying cut, furnished by Messrs. Gall & Lembke, shows the face of the instrument and is nearly the full size.

RHEUMATIC SPASM OF THE CILIARY MUSCLE.

BY CHAS. DEADY, M.D.

Mrs. S. W. H. came under my care June 15, 1889, complaining of severe headaches covering a period of over six years.

Examination showed the following condition of refraction : O. D. V. = $\frac{2.0}{0}$; with + .50 D^c. ax. 65° V. = $\frac{2.0}{0}$. O. S. V. = $\frac{2.0}{0}$; with + .75 D^c. ax. 110° V. = $\frac{2.0}{0}$. Esophoria 1° at 20 feet. Exophoria in accom. 3°.

Gave above combination of cylinders for constant use, and by means of prisms trained first the external recti and afterward the opposing muscles. Under this treatment the headaches ceased and for a time the patient was exceedingly comfortable.

September 26, she came to me and stated that her glasses were no longer suitable, as she suffered from pain around the eyes and also had considerable blurring of vision at times.

By all the tests the glasses proved correct ; I could not find the slightest ground for changing them. The muscles were now in a state of equilibrium, and there was nothing in either of these two factors to explain the difficulty. One thing which rather puzzled me was the fact that the apparent spasm was very irregular in making its appearance, and not only irregular, but did not seem to have any relation to over-use of the eyes. During the next six weeks I treated the case in various ways, and among other things tried absolute rest, both with and without glasses. The blur was just as liable to return after a period of rest as after use, and finally by watching carefully it seemed to me that the case was affected by the state of the weather.

Upon inquiry I ascertained that the patient was subject to muscular rheumatism, and that she had thought that her eyes were worse when the rheumatic pains were present. In order to

be as certain as possible I watched the case through two or three returns of the spasmodic conditions, and each time observed that the general rheumatic symptom were aggravated simultaneously. Becoming satisfied as to the cause I gave the patient Macroton 3 to be taken three times daily, and the result was the complete disappearance of the blur and pain about the eye inside of twenty-four hours, together with great amelioration of the general condition.

Upon withdrawing the remedy the blur returned in a short time, and by practicing this experiment two or three times I became thoroughly convinced that its disappearance was due to the medicine.

Considering the case one for the general practitioner I now sent the patient back to her own physician, and was gratified to learn, some time afterward, that with the improvement of the rheumatic difficulty the visual symptoms disappeared.

A CASE OF RETINITIS DIABETICA.

(With Chromo-lithograph.)

BY GEO. S. NORTON, M.D.

C. K., a man fifty-four years of age, came to my clinic in the New York Ophthalmic Hospital on November 11, 1889, on account of failure of vision. He was a workingman of good physique, though somewhat emaciated. He reported that he had been gradually losing flesh for five or six years and at the same time becoming weaker, so that he had been compelled to give up his work that fall. For two years his sight had been gradually failing with no subjective symptoms, except occasional photopsies and chromopsies, and with no external appearances of eye trouble.

An examination of the eyes gave the following: V. $\frac{20}{200}$, o. u. not improved by glasses. There was no apparent external trouble, and the refractive mediæ were clear. The ophthalmoscope, however, revealed most marked changes in the fundus, which were similar in the two eyes, only more extensive in the right. (See Chromo-lithograph).

The optic papillæ were a little blurred, but not swollen. The retinal veins were about normal in size, while the arteries were somewhat contracted. Over the whole fundus were irregular, glistening white patches, more pronounced at the posterior pole around the papilla and macula lutea. These patches were larger in the vicinity of the macula lutea and smaller toward the ora serrata, but throughout the whole retina small white points were abundant. That these spots were chiefly in the deep layers of the retina was evident from their shape and relation to the retinal vessels, which, as a rule, ran over the patches, though occasionally dipped down into them. In some places these points of degeneration would seem to have coalesced and formed a bed in which a retinal vessel would lie, appearing as a white border or background to the vessel and occasionally veiling it here and there.



Hæmorrhages were abundant throughout the whole retina, but were small and chiefly situated in the deeper layers. Slight changes in the pigment layer were observable in some portions of the retina. The appearance of the fundus of the right eye is very well shown in the chromo-lithograph; for the drawing of which I am indebted to Dr. A. H. Hart.

The patient presented all the characteristic features of diabetes, excessive thirst, prostration, profuse urination, etc. A careful analysis of the urine was made by Dr. Leal and sent to me, but unfortunately has been mislaid. The only record to be found is, that it was heavily charged with sugar, with no albumen.

Nothing further was seen of the patient until December 14, 1890. He then reported that he had been in Europe for some nine months, a portion of the time under treatment, drinking various waters and living regularly. I had the year before given him full instructions as to diet. During his stay abroad he had seemed to improve in his general health. He had gained five pounds in weight, and while on the continent he was less prostrated, drank less water, and had less stomach derangement. Since his return, however, there had been more trouble with the stomach and he had suffered from more frequent attacks of extreme prostration, especially in the mornings. He was passing a little over two quarts of urine daily. A specimen of the urine was sent to Dr. Malcolm Leal for analysis, who reported reaction acid; specific gravity, 1.035; urea, 1.3 per cent., glucose, 2.5 per cent.; no albumen or other abnormal constituents. An examination of the slight sediment gave: uric acid crystals numerous; yeast spores and penicilium glaucum.

The visual test, at this time was R.V. $\frac{15}{200}$, L.V. $\frac{10}{200}$. The appearance of the fundus in each eye was apparently the same as the year previous. No apparent increase or decrease of the white patches could be perceived, and the hæmorrhages were relatively unchanged in number and situation.

Remarks.—In the past twenty years I have seen several cases of retinal disease dependent upon diabetes, but in only two or three have there been the white points of degeneration, and in those cases the spots have been small, few in number and scattered. In no case have they seemed to coalesce and form such large, white, glistening plaques

as in the one just reported. Upon my first examination I fully expected to find albuminuria as the cause, although the peculiar glistening appearance of the patches was unusual and sufficient to attract attention. When, however, two or three superficial examinations of the urine gave no albumen and abundant sugar, a thorough analysis was made by Dr. Leal, which confirmed beyond doubt the diagnosis of diabetes.

The inflammatory symptoms in the retina in this, as well as in all other cases which have come under my observation, have always been very limited, indicating that diabetes causes, chiefly, low degenerative changes in the retina, more marked in the deeper layers and in the retinal vessels. The remarkably slight change in the vision and appearance of the fundus in over one year emphasizes the low form of inflammation present and the slow progress of the disease. From a superficial examination of the literature I have not yet been able to find a case in which such extensive retinal changes have been observed in the retina as a result of glycosuria. It is therefore considered advisable to place the above case upon record.

OPHTHALMOLOGICAL NOTES.

BY H. H. CRIPPEN, M.D., NEW YORK CITY.

M. Venneman, on the occasion of the eighth session of the French Society of Ophthalmology, called attention to the use of lactic acid in the treatment of lachrymal fistula. Its action as a caustic is limited to the inflamed tissues; it destroys the fleshy granulations, stimulates the vitality of the lachrymal mucosa, and notably facilitates the cicatrization of the fistulous orifice. The treatment is very slightly painful, and consists in the daily introduction into the fistula of a bit of gauze soaked in lactic acid, and in the application of an antiseptic dressing. After several applications a crust forms over the fistulous opening, and a cure is obtained in from one to five weeks.

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Dr. Budin of the Charity Hospital, Paris, returns to the subject of naphthol as an antiseptic, as advanced by Dr. Valude in a thesis some time ago. In purulent ophthalmia Dr. Budin has obtained excellent results by the use of the following: Naphthol A, 20 centigrammes; distilled water, 1000 grammes.

This recalls to mind a case of ophthalmia neonatorum to which I was called in consultation. The attending physician had been using the orthodox treatment of nitrate of silver cauterizations daily, and while the cornea remained intact the discharge did not seem to lessen. A solution of naphthol A was ordered (5 grs. to the ounce), to be dropped in the eyes each time after cleansing. Immediately after

beginning the use of naphthol the purulent discharge became perceptibly less and ceased in a few days more.

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Dr. Touchaleaume, in a thesis on "Syphilitic Chancre of the Conjunctiva" (*Recueil d'Ophthalmologie*, Mai, 1890), relates the results of his study of this affection. In general, syphilitic chancre of the conjunctiva is a relatively rare disease. It is observed occasionally among physicians and midwives from want of care. But most frequently it is the result of a kiss on the eyelid, and is usually seated at one of the angles of the eye. Altogether, in reviewing the literature of this trouble, the author has been able to collect reports of only eighteen cases. The principal characters of the disease are: An ulceration of erosive form, and sometimes with perpendicular edges; more than this, there is found an interstitial induration and a preauricular induration. According to M. Touchaleaume, conjunctival chancre can be confused with cancer or with a gummous ulcer; but cancer is of slow evolution, its coloration is of vinous red, and it has an irregular, easily bleeding surface. With regard to a gummous ulcer of the conjunctiva, this form of syphilis is usually accompanied by an inflammation of the iris or of other internal portions of the eye.

* *

Apropos of infectious sympathetic ophthalmia, that is to say, that form which is transmissible by the optic nerve sheath, Abadie has presented to the Society of Ophthalmology of Paris a memoir in which a new treatment is advised. This consists of an injection into the infected eye of a solution of corrosive sublimate (1-1000). [This mode of treatment is only proposed by Dr. Abadie in cases where the panophthalmia has progressed so far that nothing short of enucleation will save the sympathizing eye.] In consequence of this treatment the progress of the disease is arrested in the sympathizing eye, and the infected eye loses its dangerous power of irritation. The first ideas of this treatment, how-

ever, were advanced by Prof. Reymond of Turin, in 1889. But Prof. Reymond only advised subconjunctival injections of corrosive sublimate, while Abadie injects directly into the diseased globe of the eye.

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Parinaud (*Académie des Sciences, Arch. d'Ophthalmologie*, t. x., No. 3) estimates that in the production of strabismus the retraction of the tendinous aponeurosis constitutes a most important factor in the muscular shortening. Thus he found that detachment and division of the capsule alone can produce a correction in convergent strabismus of from 15° to 20° . By combining detachment and division of the capsule on the side of the deviation with advancement of the muscle on the other side he obtains corrections of from 25° to 30° . The division of the capsule causes less functional disturbance of the eyes than does tenotomy.

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Intra-ocular injections of corrosive sublimate will of course give rise to great pain and will apparently endanger greater trouble. But, outside of a few hours of pain, Abadie claims that the reaction is only slight and quickly subsides. The following case is cited in support of his method of treatment (*Annales d'oculistique*, Mars-Avril, 1890): "A woman, aged sixty years, fell in a stairway and cut her left eye. Seen some hours after the accident, she presented a large rupture of the sclera. Through this rupture, of about two centimeters in extent, the crystalline had been expelled and a portion of the ciliary body had protruded. The wound was carefully cleansed with a solution of corrosive sublimate, 1-2000, and an antiseptic dressing was applied. All went well for three weeks and then sympathetic ophthalmia appeared. Before proceeding to enucleate I resolved to try an intra-ocular injection of corrosive sublimate. The prolapsus of the ciliary body (now only slight); was cauterized by the galvano-cautery, and with a Pravaz syringe I injected into the wounded eye two drops of a solution of corrosive sublimate, 1-500. Reaction was very quick, the

pain very violent. The following day there existed a deep pericorneal redness and the posterior surface of the cornea, with Descemet's membrane, was entirely opaline. But, little by little, the following days, the reaction lessened, the cornea regained its transparency; at the same time the vision of the eye attacked by sympathy grew rapidly better. Briefly, after fifteen days, not only had the vision of the eye attacked by sympathy become nearly normal, but the wounded eye itself, which I supposed destined to enucleation, had improved to such a point that the patient could count fingers at several metres. Four months after this intervention, the cure is complete, and with the wounded eye furnished with a convex 1.50 D., the patient can read.

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Grunthal ("Netzhautblutungen bei Hydracetin-Intoxication," *Centblt. f. Augenheilkunde*) relates the case of a medical student afflicted by general psoriasis. This affection was treated by liberal unctions with a pomade of hydracetin, about thirty grammes of this drug being employed daily for four days. Very shortly there followed cyanosis, fever, and albuminuria. Ten days after the appearance of the first symptoms of poisoning there followed nasal and retinal hæmorrhages.

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Bjerrum advises, as a supplement to the ordinary examination of the visual field, an examination by the use of a white object seen under a very small angle (*Journal Scandinave d'oph.*, II, 3d fasc., *Arch. d'oph.*, No. 3, 1890). He places the patient at 2 metres distant from a black wall, over which he moves small round disks of ivory, fixed on black handles. The smallest of these disks has a diameter of 3 mm. corresponding to an angle of 5'. Examined with these objects, the normal visual field appears much more restricted than on ordinary examination. With an object of 3 mm., he found as limits: External, 35°; superior, 25°; internal, 30°; inferior, 28°. With an object of 6 mm.: External 50°; superior, 35°; internal, 40°; inferior, 37°.

The size of Mariotte's spot appears a little larger than that found by ordinary examination.

By this method, Bjerrum claims that one will frequently discover small scotomata that would escape notice in the ordinary method of taking the field of vision at a short distance. The author insists on a special form of scotomata that he has very often found in glaucomatous subjects examined in this manner. These scotomata form islands contiguous to Mariotte's spot. Their form often recalls the direction of the bundles of nerve fibers. The author believes that these scotomata are due to a destruction of the nerve fibers on a portion of the border of the papilla.

* * *

Apropos of some cases of strabismus, in which Weiss ("Zur Ätiologie des Strabismus Convergens." *Klin. Monats. f. Augenh.*) has been able to obtain autopsies, it is claimed that there are fundamental differences in the direction of the axes of the orbits which distinguish those affected by convergent strabismus from those who have divergent strabismus.

Among the subjects of the strabismus convergens the orbital opening is directed forward; among those affected by strabismus divergens this opening is directed outward, often in a very marked degree. This brief note also suggests to us that, in certain cases of heterophoria, where the muscles do not respond well to training there may possibly be anatomical causes, only to be overcome by operation.

* * *

Sapejko contributes to the study of affections of the frontal sinuses (*Annales d'oculistique*), the following conclusions: (1) Displacement of the eye outward and downward among young subjects, downward and in part outward among adults, the mobility of the eye, almost perfectly conserved, indicates ectasia of the frontal sinus of the corresponding side; (2) subjective symptoms, as headaches, especially frontal and at the root of the nose, and vertigo,

also support the supposition of ectasia of the sinus; (3) the existence of fistula in the internal or inferior region of the orbital border containing muco-purulent secretions, if there exists, at the same time, the above symptoms, positively indicates an empyema of the frontal sinus; (4) pulsation of the secretion of the fistula confirms this diagnosis and demonstrates again that the fistula leads into a large cavity with an abundance of vessels; (5) with regard to treatment, it is absolutely necessary in all cases to open a free communication between the cavity of the nose and the sinus.

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König studies at some length the ocular affections which depend upon arterio-sclerosis ("De l'artério sclérose et des affections oculaires qui en dépend." *Thèse*, Paris, 1890). The forms under which the most frequent complications present themselves are: hæmorrhages of the uveal tract, of the retina, choroid, optic nerve and its sheaths; sinuosities of the vascular walls; endoperiarteritis ending in complete obliteration of the vessels; miliary aneurisms. The veins participate likewise in the same process of sclerosis and are the seat of ampullar dilatations and of varicosities. The term albuminuric retinitis should not be retained as a designation for all the retinal complications which follow in the diverse varieties of nephritis. The expression nephritic retinitis responds better to the needs of the clinic.

There exist several forms of retinitis under which interstitial nephritis may manifest itself, and the clinical value of which deserves to be noted: hæmorrhagic retinitis, with narrowing of the caliber of the arteries and sclerosis of the retina, may precede all symptoms of nephritis; there is also a progressive endoarteritis of the capillaries of the retina caused by hypertrophy of the heart.

One can, by ophthalmoscopic examination, distinguish, in a great number of cases, retinitis of interstitial renal origin, and the retinitis that follows the course of parenchymatous nephritis.

The white spots in the retina coincide with epithelial

degeneration of the kidney, whatever may be the form of the nephritis.

In the absence of any lesion of the heart, emboli of the retina are produced by atheroma of the large vascular trunks, or of the arteries very near the eye.

There exist thromboses of the central artery of the retina of which the differential diagnosis from embolism presents difficulties when the obliteration of the vessels comes suddenly and with the same ophthalmoscopic picture. Nevertheless, when the thrombosis is followed by symptoms of cerebral softening, and when the retinal arteries are obliterated in several places, the diagnosis is certain.

Chronic glaucoma is frequently met in association with generalized or local arterio-sclerosis.

Among visual troubles of central origin, it is necessary to place ophthalmic migraine, hemianopsia. The repeated access and the grave accidents of ophthalmic migraine develop under the influence of arterio-sclerosis.

In stenosis of the aorta there is observed a transitory sudden blindness, monocular or binocular, due in all probability to spasmodic contraction of the cerebral arteries.

In generalized arterio-sclerosis a sudden, complete blindness sometimes occurs without any ophthalmoscopic lesion, and may probably be attributed to vascular alterations of the occipital lobes.

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Tornatora (*Annali di Ottalmologia*) has studied the atrophy of optic chiasm which succeeds the destruction of one of the bulbs. He finds that in the rabbit the tract opposed to the atrophic nerve appears equally atrophied; in the dog, the two tracts of the chiasm appear atrophic, the atrophy being most pronounced in the opposed tract; in man, the two tracts are atrophied to an equal extent.

Microscopic examination authorizes Tornatora to conclude that in the rabbit one of the optic nerves passes in the opposed tract of the chiasm; in the dog, two thirds of the optic nerve fibers pass in the opposed tract and one third in the corresponding; in man, the fibers of the optic nerve

pass half in the opposed tract and half in the corresponding tract.

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* *

Galezowski has conceived the idea of correcting irregular astigmatism by the use of conical glasses. This has been arrived at by measuring the curvature of the cornea, in these cases, in the different halves of the same meridian. In applying these researches to a great number of eyes afflicted by irregular astigmatism, it was found that the curvature was greater in one half of one meridian than in the other half of the same meridian. It was also found that the ophthalmoscopic image was wider at the extreme end of one meridian than at the other. Reasoning from this, conical glasses were tested (better, glasses which are *sections* of a cone, as cylindrical glasses are sections of a cylinder), in some cases combined with cylindrical glasses. Several cases are cited in which these conic or cylindro-conic glasses were used, where a correction of this variety greatly improved vision; in one of these to normal, when no improvement could be gained, either by simple spherical or by cylindrical glasses. Galezowski's conical glasses are cut from a cone in such a manner that each section represents several numbers. Each glass is divided in several parts so that one can indicate which should be selected. The surface opposed to the curve of the cone can, of course, be plane, spherical, or cylindrical as necessity indicates.

THE JOURNAL OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

EDITOR,
CHARLES DEADY, M.D.

ASSOCIATE EDITORS,
H. H. CRIPPEN, M.D.
MALCOLM LEAL, M.D.

EDITORIAL.

The death of Dr. George S. Norton has necessitated a re-organization of the staff of the JOURNAL. With the present issue, Dr. Charles Deady assumes the responsibility of editorship, and Dr. H. H. Crippen, of New York City, to whom we are indebted for much good work in the past, becomes associate editor in the department of ophthalmology and otology. Dr. Malcolm Leal continues in charge of the department of laryngology.

The editors desire to return their sincere thanks to the members of the profession throughout the country for the many assurances of sympathy and support received since the sad news of our great loss was spread abroad. The JOURNAL has so far been a remarkable success: with the help of the profession it will easily continue to be so; without such help no publication of this character can live.

While a very few have failed to respond as we had hoped, we still feel that we have had a most abundant and able support in the past; many of our ablest and most busy men, whose time must be exceedingly valuable, have contributed largely to our columns, and in every possible way we have been made to realize that we could confidently rely on the cordial co-operation of our professional brethren.

With a continuance of this support we shall endeavor to keep the JOURNAL fully up to its original standard, and shall spare no efforts to make it a worthy exponent of the school in the special subjects to which it is devoted.

A CONTRIBUTION TO THE STUDY OF OCULAR MUSCLES.

BY HAROLD WILSON, M.D., DETROIT, MICH.

I.

THE INFLUENCE OF THE RELATIVE ACCOMMODATION, WITH STATISTICS OF THE POSITION OF OCULAR EQUILIBRIUM IN 114 CASES.

One of the earliest observations upon the anomalies of the ocular muscles, was the fact that a non-squinting eye sometimes deviated when screened, or when a vertical prism was placed before it. These deviations were called "insufficiencies," and for many years our knowledge of them rested upon these simple observations. The invention of the phorometer by Dr. Geo. T. Stevens made it possible to substitute experimental methods of accuracy for the crudities of the original Von Græfe test, and gave us the means of exact measurements. The old terminology has given way to one that is comprehensive, and involves no pathological hypothesis, and we are in a fair way to place our knowledge of these muscular anomalies upon a secure foundation.

It is assumed, in general, that binocular fixation being abolished, the eyes will naturally come to occupy the position of least resistance, or that which they can maintain with the minimum amount of effort. If this position varies from that habitually maintained when the eyes participate in the act of vision, it is clear that this act is attended by more effort than when both positions are identical. It is further assumed that these extra efforts of some eyes, neces-

sary to binocular vision, are strains, and productive of more or less grave consequences to the human economy. A proper inquiry therefore, is, what is the normal position of the eyes in equilibrium, and upon what factors does it depend? for it is quite possible that, as the average ordinary eye is not emmetropic but hypermetropic, its normal position of rest may be other than that generally assumed. This, however, can be determined only by a long and careful series of examinations, and the combined efforts of many men may be necessary in order to arrive at satisfactory conclusions. The present paper is an attempt to call attention to one of the important factors, not ordinarily taken into account, which influence the position of the eyes in the act of seeing. If binocular fixation be suspended, the position which the eyes assume depends upon four factors:

First. The form and position of the orbits.

Second. The insertion of the ocular muscles.

Third. The essential and relative power of the ocular muscles.

Fourth. The ratio of the positive and negative portions of the relative accommodation for the point assumed.

It is the last of these factors with which we are now concerned.

The ciliary muscle is involved in the larger part of our conscious visual acts. In the emmetropic and myopic eye it is at rest only for vision at the far-point and beyond, while in the hypermetropic eye it is called into play even there. If then, the majority of eyes are of the latter sort, it is clear that we do not usually escape from the influences of this important muscle. The essential connection of accommodation and convergence is a fact long established; these two facts furnish the key to that variable personal equation of the patient which enters into even the most exact muscular examinations. It is true that we may converge the eyes without accommodating, and accommodate without converging them, but it is no less true that every increase in the accommodative effort is attended with an increase in the tension of the muscles which converge, and

vice versa. It is only the necessities of binocular vision that prevent this increase of tension from resulting in actual deviation. This is easily shown by a simple experiment: The writer's eyes are practically emmetropic, and show at far point an esophoria of 3° —, although by an extra effort of relaxation the manifest deviation disappears. When accommodating for a distance of 12 inches there is a manifest exophoria of 1° . The following tables show the results of changing the accommodation for this point by means of various convex and concave glasses:

With convex glasses, the object a small white cross on a black background, at a distance of 12 inches from the eye:

Dioptries . . . . .	...	...	...	...	...
Exophoria.....	3°-4°	5°	6°-7°	8°-9°	

With concave glasses:

Dioptries.....	...	...	...	...	...
Esophoria	2°-4°	8°-9°	14°	26°	

When the effort of accommodation was lessened the eyes diverged; when it was increased they converged. Within a range of eight dioptries of accommodation there was a difference of 35° in convergence. For far point, bringing more or less accommodation into play, by means of concave glasses: -3 . produced a diplopia of 14° ; -5 . of 20° ; -8 . of 38° . The prevalence of convergent strabismus as characteristic of hypermetropia, and of divergent strabismus as characteristic of myopia, is due largely to the fact that in the former the positive part of the relative accommodation is small, and the negative part large, while in the latter the reverse is true. If the amount of accommodative effort required to secure distinct vision, at any given distance, is greater in one instance than it is in another, the correlative tension upon the recti interni must also be greater, and consequently there must be a greater tendency to convergence. Whether this tendency results in an absolute convergence or not, depends upon the respective influence of the other factors that have been enumerated. It is easy to conceive that a tendency to esophoria, for example, from

one cause might be antagonized and overcome by a tendency to exophoria from another cause. Thus a state of fatigue or ocular debility might produce even crossed diplopia in eyes naturally tending to excessive convergence, or, from an abnormally forward insertion of the recti interni, esophoria might exist in eyes for a point at which the positive part of the relative accommodation was much greater than the negative. In different persons, therefore, the estimation of the ratio of the positive and negative parts of the relative accommodation furnishes no absolute guide as to the position of the eyes at rest, or in equilibrium. In the same eyes, where the other influences eliminate themselves by successive experiments, the manifest heterophoria can be shown, as above, to be a function of this ratio.

Using as test objects the small dots of Burchardt's International Test-type, Plate 2, No. 30, at a distance of 12 inches from the eyes, the writer is able to count them quite distinctly with glasses from $+4.50$ to -1.75 , under ordinary circumstances. At this distance there is normally an exophoria of 1° —. Arming the eyes with lenses of $+3.25$, carefully centered, and fixing the gaze for a few minutes upon small objects exactly 12 inches away, the phorometer showed with the glasses on, an exophoria of 6° ; removing these and testing the eyes at once, there was an esophoria of 4° —. Now resting the eyes until the normal esophoria of 1° was restored, and using lenses of -3.25 under the same circumstances, with the glasses, there was an esophoria of 10° ; without them, an exophoria of 2° . Repeating these experiments several times the results were always in the same sense, although the same number of degrees of deviation was not always recorded. With a prism of 7° before each eye, bases toward the temples, vision was fixed upon near objects for several minutes; removing the prisms, the normal balance seemed to be undisturbed. With the same prisms, bases in, there was also little or no change in the equilibrium. If, however, convex and concave lenses were added to the prisms, the following results were obtained: with $+3.25$ and prisms of 7° for each eye, bases either in or out, a pronounced

esophoria was set up, lasting fifteen minutes or more, and from 10° to 20° in amount; with the eyes in this state, if the small crosses in the phorometer were brought vertically over each other by a voluntary relaxation of the interni, their outlines were badly blurred, and it was only by permitting the high degree of esophoria that they could be distinctly seen; with -1.50 and the bases of the prisms in either direction, there was also an esophoria set up, but only of 3° to 4° , and this rather quickly disappeared.

Such experiments as these are too crude and limited, to afford sufficient ground for any broad generalizations, but they show at least how easily the findings of the phorometer may be varied by certain changes in the convergence and accommodation, and are suggestive of some lines of investigation which it might be profitable to pursue.

In both the above experiments, when the glasses were removed and the ordinary convergence and accommodation re-established, there was a change in the innervation of the internal recti muscles, and an increase in their state of tension, so that binocular fixation was possible only by an extra effort on their part. This extra tension of the recti must have had some effect upon that of the accommodation, and must have interfered with the healthy balance between these muscles. Indeed, it is the loss of this balance that is the disturbing factor in many cases of asthenopia. It is not unusual to find hypermetropes of a low grade, with "muscular insufficiency," whose asthenopia may be cured by systematic exercise of the muscles, and without any attention being paid to the refractive error. The late Dr. Geo. S. Norton called attention to the fact that hypermetropia with esophoria may be more fully corrected by glasses than when associated with exophoria, and this is due to the influence of convex glasses upon the relative accommodation. It is equally true that myopia with exophoria will bear the use of stronger concave glasses than when it exists with esophoria, and for a similar reason.

It is a familiar fact that the balance of the ocular muscles, as shown by every day tests, is somewhat variable. If it

can be shown that the relative accommodation for a given point is also variable, the explanation of this fact is obvious. It is also well known that the heterophoria for far and near points may be of a contrary sort. Dr. Stevens seeks for the cause of this anomaly in the existence of hyperphoria. If this is so, we must add another to the causes enumerated above for ocular position. It would seem more natural, however, to attribute it to disturbances in the relative accommodation, although perhaps it may not be possible, as yet, to give the precise explanation as to the manner in which it may be brought about.

Up to the present time, the statistics of muscular anomalies are not numerous. The labor of a systematic examination of the eyes is very great, when not only the refraction is to be made out, but also the character and amount of the heterophoria, of whatever sort, the muscular power, and the relative accommodation. The exigencies of an ordinary practice forbid it, and we must content ourselves with much less. Nevertheless, such completeness is very desirable. The following tables represent the findings in 114 cases from the writer's private practice, the majority being cases of asthenopia. They are more or less imperfect, although the examinations were carefully made and always with the phorometer. In a number of cases the relative accommodation was measured, but the methods employed were hardly of enough accuracy to warrant incorporating the results in this place:

HYPERMETROPIA.	{	Eso. 30 = 36 per cent.	In	{	Eso.. 9 = 11 per cent.	
		Exo. 41 = 50	accom.		Exo.. 51 = 61	"
		Eso. with Exo. in accom.....			8 = 10	"
		" " O° " "			9 = 11	"
		O° " Exo. " "			4 = 5	"
		O° " Eso. " "			1 = 1	"
		Hyperphoria			46 = 55	"
		Lateral orthophoria.....			12 = 14	"
MYOPIA.....	{	Eso. 5 = 6 per cent.	In	{	Eso.. 2 = 2 per cent.	
		Exo. 13 = 14	accom.		Exo.. 12 = 13	"
		O° with exo. in accom.....			1 = 1	"
		Hyperphoria.....			10 = 12	"
		Lateral orthophoria.....			5 = 6	"
		Vertical "			10 = 12	"

EMMETROPIA....	{ Esophoria.....	0	
	{ Exophoria ...	3 =	4 per cent.
	{ Hyperphoria	5 =	6 "
	{ Lateral orthophoria	6 =	7 "
	{ Vertical "	6 =	7 "

The real number of cases of orthophoria in these 114 patients would certainly be very much reduced if each patient could have been subjected to more numerous examinations, for among them are included all those where a trace of deviation was found, less than 0.5° . The prevalence of exophoria in hypermetropia is due perhaps to the effect of the convex glasses used to correct the refractive error. This may possibly likewise explain the preponderance of exophoria in accommodation, although it would not explain the same apparent facts in myopia. These tables represent rather too few eyes to enable an accurate judgment to be formed as to the normal percentages of the various forms of heterophoria to be found in eyes at large. We need more facts, and when a sufficient number of them have been accumulated, if they have been observed with accuracy, we can erect upon them a substantial comprehension of the physiology and pathology of the muscles of the eye.

II.

A REPORT OF TWENTY-TWO OPERATIONS FOR HYPERPHORIA.

The real value of a surgical procedure must be measured by its results; the theories upon which it may be based have no importance, to the patient at least, if the results obtained do not justify them. The novelty of a partial tenotomy of the superior or inferior rectus muscle for the relief of asthenopia and reflex disorders of a more or less grave sort, from headache to insanity, has been attractive to many ophthalmic surgeons, but the influence of hyperphoria (or any other variety of heterophoria) in the production of these disorders is a question of practical experience.

We must first get the results, and then reconstruct our theories if necessary.

The correction of hyperphoria proceeds from the belief that such a lack of balance among the ocular muscles necessitates an undue effort on the part of the inferior recti, and that this undue effort is responsible for any of the effects eye-strain in general may produce. It is true that this defect exists in a large number of eye-patients; for example, as shown by the tables already given, it existed in a positive degree (0.75° and more) in 61 out of 114 patients examined, and there was a trace of it in a far larger proportion than this; but it is also true that it exists in very many entirely healthy eyes. Neither of these facts, then, help us much in correctly estimating its influence, except that they enable us to say that though it may coexist with asthenopia, it has no necessary connection with it in general. Its importance in individual cases can be shown only by the results which follow its correction, and this is the reason why practical experience is the touchstone of our knowledge in the matter. For this reason, the following cases are presented, as embodying my own experience during the past two and a half years, with this somewhat new departure in surgery. The methods employed in the examination, preliminary and after treatment, and in the operation itself were those of Dr. Geo. T. Stevens, and which through his courtesy I had been permitted to study in his office. It seemed best first to give a brief account of each case operated on, with the results obtained, for the better understanding of these results, and finally briefly to summarize and discuss them.

CASE I.—Emma H., age fifteen, sent to my office by Dr. M. J. Spranger, August 24, 1883, with well-marked eczematous conjunctivitis of six weeks' standing. V.=1. Hm.=0. Exo.= 1° to 3° , in accom.= 5° to 6° , R. Hyp.= 0.5° . I prescribed yellow oxide of mercury locally, and Psor. cc. September 4, the eyes were somewhat better, R. Hyp.= 1° . September 6, R. Hyp.= 2° . September 11, the eyes were still considerably inflamed, and the blepharitis rather troublesome. The hyperphoria was operated

for. After the operation R. Hyp.=0°. September 29, R. Hyp.=0° to 1° and the eyes were about well.

CASE II.—Maggie F., age sixteen, consulted me September 3, 1888, through the kindness of Dr. O. R. Long, of Ionia. There was a history of asthenopia for two years past. V.R.=1. Hm.=0. L.=0.06 with +3.25=0.4. R. Hyp.=1° to 3°. Exo.=0° to 3°, in accom.=12° to 16°. Glasses were prescribed for near point, R.+0.75, L.+3.25, and the patient was directed to return if they failed to relieve. February 5, 1889, the patient returned, saying that until November 1, her eyes had given her very little or no trouble, but that at that time the smarting and burning produced by any attempt to study were so troublesome that she became discouraged and left school. Examination now showed V.R.=1, Hm.=0.75; L.=0.1 with + 3.25=0.7, R. Hyp.=1°, Exo.=3°, in accom.=10°. A prism of 1°, base down, was prescribed for the right eye. February 6, eyes much better, read and used eyes for near work a great deal yesterday, R. Hyp.=2.5°, Exo.=1° to 2°, in accom.=8°. February 7, with the assistance of Dr. T. P. Wilson, I operated for the hyperphoria, after which the hyperphoria=0°. February 11, no asthenopia since operation, uses eyes (with glasses at first prescribed) freely and with perfect comfort; Hyp.=0°. Ex.=1°, in accom.=4° to 5°.

CASE III.—Mr. T., age fifty-six, consulted me October 10, 1888, for headache and asthenopia. He had consulted Dr. Stevens of New York, who had operated for an esophoria of 2° to 3° and had prescribed a temporary prism for R. Hyp. three months ago. Up to the present time, however, there had been little or no relief from the asthenopia. Present condition: R. Hyp.=2°, Exo.=2°, in accom.=15°. I then made an operation for the hyperphoria, after which R. Hyp.=0° to 1°. October 13, asthenopia the same, R. Hyp.=1.5°. October 16, R. Hyp.=2°. The second operation for the hyperphoria was now made, after which R. Hyp.=0°. October 24, eyes same. April 24, 1889, L. Hyp.=1°. The use of the eyes is quite comfortable and there is only occasional asthenopia. The patient is convinced that the correction of the hyperphoria had an essential relation to the relief of the asthenopia, although he has improved in general health meanwhile, and the more easy use of the eyes may in part be referable to this. February 1, 1891, eyes and general health both better, Hyp.=0°.

CASE IV.—Mrs. T., age forty-two, November 22, 1888. Has had headaches for eight to ten years—drawing pain through temples and eyes. Headaches usually come on from over-taxing the eyes; diplopia at times, V.R.=0.6, worse with glasses; L.=0.3 with—2. ax. 160° . =0.6. R. Hyp.= 2° , Exo.= 20° , and crossed images with red glass before one eye. A prism of 1° for the hyperphoria was prescribed for temporary use. December 29, the patient reported that she had had almost no headache at all since wearing the glasses, and could use eyes much better; could go to church, etc., without headache following, as had been the case before wearing them. I made an operation for the hyperphoria, which then measured 2° . After the operation, R. Hyp.=trace. December 1, 1890.—Since the operation a year ago, the eyes have been quite comfortable and there has been very little headache.

CASE V.—Mr. H., age forty-four, January 6, 1889, referred to me by Dr. C. S. Morley. History of headache, pain in forehead more or less for fifteen years, < by use of eyes. V.R.=0.4 with—1 ax. 90° =1. L.=0.7, with—0.25 ax. 75° =1. I prescribed cemented bifocal glasses, as above for far point, and the same with +0.75 o.u. added for near point. February 1, headaches much relieved by glasses. August 16, has had headaches as of old, for some weeks. Examination showed R. Hyp.= 1° , for which a temporary prism of 1° was prescribed. August 17, no headache; R. Hyp.= 2° . August 31, no headache since wearing prism; R. Hyp.= 2° , which was then operated for. September 4, R. Hyp.= 0° . Glasses of R.+1—0.75 ax. 90° , L.+1, were then prescribed for near point. The patient has not since reported personally, although indirect information through mutual friends, leads me to believe that the headaches are very much if not altogether relieved.

CASE VI.—Mr. W. P., age thirty, came to consult me February 25, 1889, with a troublesome blepharitis which had existed for some months. V.=1.0.u. Hm.=? L. Hyp.= 1° , Eso.= 6° , in accom.= 16° . I prescribed prism of 2° , base out, for temporary near use, yellow oxide locally, and sulph. 30x. March 14, eyes not materially better; L. Hyp.= 1° . With the assistance of Dr. T. P. Wilson, I operated for the hyperphoria, and prescribed +0.75 for near point, from the ophthalmoscopic examination. March 23, blepharitis about well; hyperphoria= 0° , Eso= 2°

to 3° , in accom.= 6° to 8° . June 25, eyes continue well. Is wearing the glasses prescribed for near point with comfort.

CASE VII.—Mrs. M. L. W., February 27, 1889. Headaches and asthenopia for three or four years or more, pain beginning in back of head and very intense over eyes and in forehead. General health not good. Much pain in back and uterine trouble. V.R.=0.8, with $+0.5\text{C}+0.5$ ax. $60^{\circ}=1$; L.+0.1? Exo.= 2° to 3° , in accom. 5° , L. Hyp.= 1.75° . I prescribed prism of 1° temporarily for the hyperphoria. March 5, eyes somewhat better; L. Hyp.= $1.75^{\circ}+$. March 10, operation for the hyperphoria made, after which R. Hyp.=trace. March 11, L. Hyp.=trace. Glasses for near point, R.+2.75, L.+3.25, were prescribed in place of the +2 which patient was wearing. March 23, L. Hyp.= 1° . Eyes again trouble her. Prism 1° was prescribed temporarily for the hyperphoria. June 10, I operated again for the hyperphoria; after operation Hyp.= 0° . January, 1891, eyes have been quite well for a long time, and also there is little headache. General health very much better. Since the operation the backache has been much less troublesome.

CASE VIII.—Mrs. D., age thirty-five. March 28, 1889. Had diphtheria nine years ago, after which there was paralysis of throat and limbs, then asthenopia. Has worn glasses for seven or eight years, but never got any relief from them. Cannot use eyes for near work more than a few seconds without drawing pains in eyes. This has been so for nine years, and the patient has consulted a number of oculists without avail. V.=1 o.u. Hm.= 1.75 ? L. Hyp.= 1° , Exo.= $0^{\circ}-2^{\circ}$, in accom.=same. Is wearing +1.0 u. and has worn +2.0 u., but they afford no help. I prescribed a prism of 1° for the hyperphoria temporarily, and saw the patient every day. On April 2, I operated for the hyperphoria, Dr. T. P. Wilson assisting, after which Hyp.= 0° . April 4, eyes no better; Hyp.= 0° , Exo.= 0° to 2° . The patient living out of the city, returned home, with the asthenopia as bad as ever. I prescribed Ruta 30x, and advised Dyerization, but have never received any further report of the case.

CASE IX.—Miss A. G., age twenty-eight, consulted me in Ann Arbor, November 23, 1887, having had a great deal of asthenopia for four or five years. Eyes "gave out" from over-study five years ago. Retinal hyperæsthesia well marked. V.=0.3 o.u., with R.— $0.5\text{C}+1.25$ ax. 30° , L.+ $1\text{C}-2$ ax. 75° (her pres-

ent glasses). V.=1, o.u. The use of the galvanic and faradic currents and Macroton 3x internally over a period of two months afforded some relief, and the eyes could be used with fair comfort, except at times. May 31, 1889, eyes still trouble her as before. L. Hyp.=1°, Eso.=1° to 2°, in accom.=0°. A prism of 1° for temporary wear as usual afforded no relief, and on June 3 I operated for the hyperphoria, after which Hyp.=0°. June 6, L.Hyp.=0.75° and eyes quite comfortable. February 20, 1891, the patient reports that following the operation the asthenopia entirely disappeared, and with the exception of an occasional day or two when near work would be difficult, the eyes could be used freely for very hard study, and had been so used much of the time since the hyperphoria was corrected.

CASE X.—Mrs. B., June 25, 1889. History of spinal trouble for years; headache < by use of eyes. Has worn bifocal glasses for two or three years. L. Hyp.=1°. I prescribed cemented bifocals and operated for the relief of the hyperphoria. No immediate relief to the asthenopia and headache followed, although word from the patient in January, 1891, reported her as declaring that in general her head and eyes had been better since the operation.

CASE XI.—Mr. G. H., age thirty-one, was sent to me July 21, 1889, by Dr. Albert Lodge, with a history of asthenopia and headaches. He was a strong myope, and had worn glasses for twelve years, but never with much comfort. V. with present glasses R.=1, L.=0.8, R. Hyp.=4°. After daily examinations, on July 29 I operated on the rectus superior of the right eye, after which R. Hyp.=2°. August 3, another operation was made on the same muscle, after which R. Hyp.=0° to 2°. August 30, eyes very much better. Even his temper is better; no headache, R. Hyp.=3°. Glasses of R.—7.00—0.75 ax. 180°, L.—6.50—1.50 ax. 20°, were prescribed for far point. The patient remains well up to the present time and wears his glasses comfortably.

CASE XII.—Miss G. H., age seventeen, referred to me September 10, 1889, by Dr. E. P. Gaylord, with the common history of headache and asthenopia. L. Hyp.=1°. I prescribed + 1.25 for near point and examined the patient frequently for three months. December 12, I operated for the hyperphoria, and the muscle being very thin an over-correction was made, so that a stitch was

necessary. February 1, 1890, L. Hyp.=0.5, eyes fairly comfortable, more so when glasses are used for near work. December 6, her father reported that the patient still had some headache and trouble with the eyes, but less than formerly.

CASE XIII.—S. J. D., age thirty-six. September 23, 1889. Asthenopia, blurring, and some diplopia. V.=1, Hm.=0.75, Exo.=8°, in accom.=14°. Diplopia with red glass, L.Hyp.=1.5°. A month or two later, the hyperphoria was operated for, and March 3, 1890, eyes about the same; Hyp.=0°. Exo.=8°. Adduction weak. I prescribed gymnastic use of prism for the internal recti, and +0.75 o.u. for near point. May 21, asthenopia, etc., about the same; can read easier with glasses than without.

CASE XIV.—Mrs. M. G., age fifty. October 30, consulted me with a history of many years trouble with eyes and headache < by use of eyes. General health not good; has much backache and spinal tenderness; V.=0.6 o.u. No improvement with glasses. For near point is wearing +2.25, which corrects her presbyopia. R. Hyp.=trace. November 4, R. Hyp.=0.75°. November 6, R. Hyp.=1°, for which I operated. November 23, thinks she can read easier. The patient then returned to her home, which was in a distant State. A letter from her in February, 1891, reported her eyes as no better.

CASE XV.—Miss E. L., age twenty, consulted me November 21, 1889, for general asthenopic symptoms; none or very little headache; some blepharitis; can use eyes only for a few minutes at a time. The patient was under my care for two weeks; glasses of +0.75 were prescribed for near point, and the gymnastic use of prisms advised. The faradic current was used every other day. Examination revealed Hyp.=0°. The patient then left the city for home, much improved. In July, 1890, she returned for treatment. The asthenopia had been considerably relieved during the winter, until a few weeks ago. Examination now showed L. Hyp.=1°, which was corrected by an operation. There was no immediate relief; subsequent reports from the patient show her eyes improved although not entirely well.

CASE XVI.—Mr. A. C., age thirty-three, referred to me December 30, 1889, by Dr. W. A. Polglase, had been subject to epileptic paroxysms (both *grand* and *petit mal*), varying in frequency from a few days to a week or more. The patient has

never had any special eye symptoms. No asthenopia, not much headache, and was sent to me to examine for hyperphoria, having been under the care of several physicians without relief. Examination showed L.Hyp.= 1° , Eso.= 2° , in accom. Exo.= 2° . January 3 I operated for the hyperphoria, and rather strangely the operation was not attended with a particle of hæmorrhage, either at the time or afterward. January 7, Hyp.= 0° , Eso.= 1° to 2° . Had a convulsion, January 4, of usual severity. February 6, Hyp.= 0° , Eso.= 1° . No change in frequency or character of the convulsions. The patient was then lost sight of, but so long as he was under observation, since the operation, there had been no improvement in his condition so far as the epilepsy was concerned.

CASE XVII.—Miss K., age twenty-one, was sent to me by Dr. W. A. Polglase, on account of frequent attacks of headache for a period of three years. There had never been any trouble with the eyes. V.=0.8, o.u. No improvement with glasses. R. Hyp.= 1° after wearing a prism of 1° for a week, R. Hyp.= 2° , which was operated for, March 12. April 30, the patient reported no relief from headache R. Hyp.= 0.75° .

CASE XVIII.—Mrs. F. B. was referred to me September, 1889, for a case of wry-neck, which had existed for three years. L. Hyperphoria of 1° was found to exist, and corrected by an operation, but the wry-neck was not improved.

CASE XIX.—Mrs J. P., age forty-one. January 30, 1891. Had a history of asthenopia extending over seven or eight years. For days past has had a dull headache and cannot use eyes for near work without much trouble with them; V. 0.8, o.u., Hm. =1. L. Hyp.= 1° , Eso.= 1° . A prism of 1° was prescribed for the hyperphoria temporarily, with the aid of which the asthenopia was better, and on February 1, L. Hyp.= 2° . Dr. T. P. Wilson operated, after which R. Hyp.= 0.5° . February 2, Hyp.= 0° . February 4, eyes much better. Glasses to take the place of those then worn were prescribed; R+1.50 \bigcirc +0.5 ax. 90° ; L.+1.50 \bigcirc +0.75 ax. 90° , for near point. February 6, the patient left for home, with the headache and asthenopia much relieved, and has not reported since.

In these nineteen cases there were twenty-two operations made. There was immediate and, so far as known,

permanent relief of the symptoms in nine cases; no relief in five cases; some improvement more or less remote in four cases, and in one case the result is doubtful. The amount of hyperphoria discoverable at the last examination made was 0° in thirteen cases, 0.5° in one case, 0.75° in two cases, 0° to 1° in one case, and 3° in one case. In three cases of those relieved by the operation there was still hyperphoria, 0.75° , 0° to 1° , and 3° respectively, while of the five cases not at all benefited, the correction was perfect except in one case, in which 0.75° was left. Of the nine cases which seemed to receive immediate and permanent benefit, seven found relief for their symptoms in the prism temporarily worn for the hyperphoria, and in most of them this relief was unmistakable. In fact, every patient who found this temporary prism of benefit secured the same relief from the operation.

The technique of the operation is simple, provided the first cut with the scissors is high enough. If it is too near the cornea, the effort to grasp and raise the tendon of the muscle with the forceps will be difficult and bungling. The tendon will usually have to be pretty well severed, although the operation will often have to be a matter of "cut and try," making what would seem to be a sufficient tenotomy and testing it with the phorometer, and then increasing or diminishing the amount of relaxation as may be necessary.

Without presuming to be too enthusiastic over the results obtained in the cases here detailed, it would seem justifiable, from a consideration of them, to assign the operation for hyperphoria a worthy place among surgical methods. There seems to be ample proof in some of these cases of its positive efficiency where other means had failed, and equally as good evidence that in a number of cases it has failed entirely.

The practical lesson from any such record of failures and successes, is the evident desirability of some principle by which we may be able to say to our patients that in the one case this operation will relieve, while in the other it will not.

The suggestion that my own experience leads me to make is that when the temporary relief of the hyperphoria, wholly or in part, by means of an appropriate prism, relieves the patient's symptoms, an operation will be of benefit, and that when the prismatic correction of the hyperphoria is of no avail, the beneficial effects of an operation are very doubtful. As to the value of the operation in general, my own personal belief is, that by correcting the hyperphoria, either by exercise or by operation (and I prefer the latter), we shall succeed in a large measure in relieving many patients who cannot be cured in any other way, and that there is no doubt that among the profession at large its value has been overestimated by some and underestimated by others. At the end, perhaps we shall find that *in mediò tuttissimus ibis*.

OPERATIVE TREATMENT OF NASAL STENOSIS.*

BY C. E. TEETS, M.D., NEW YORK.

Nasal stenosis may be partial or complete. When stenosis of the nostrils is extreme, the individual is known as a mouth-breather.

Mouth-breathers we know aggravate their pharyngeal and laryngeal troubles by inhaling directly into the pharynx and larynx, cold and dusty atmosphere. When the stenosis is not complete, but when the cartilaginous and bony ridges on the septum make the nostrils so small that the slightest change in the weather causes a swelling of the mucous membrane covering the turbinated bones, producing contact of tissue followed by irritation and annoying symptoms, the individual is constantly afflicted with *cold in the head*. This same amount of hyperæmia, if the nostrils were of the proper caliber, would occasion no annoyance because there would be sufficient room for the slight swelling of the mucous membrane, without its causing nasal obstruction.

Ecchondrosis, exostosis, deflection and deformities of the septum, on the one side, and mal-position of the turbinated bones and hypertrophy of the mucous membrane covering these bones, on the other, are the most frequent causes of nasal stenosis.

There seems to be a difference of opinion as to what should properly be called ecchondrosis and exostosis. Bosworth, on the one hand, claims that these tumors are very

* Read before the Homœopathic Medical Society of the State of New York.

rarely found in the nasal passages, and that the so-called ecchondroses and exostoses are no other than simple deformities and deflections of the nasal septum; others claim that they are of frequent occurrence. I should consider that where we had on one side of the septum a cartilaginous or osseous growth, while on the other it was comparatively straight, it would be properly classed under the head of ecchondrosis or exostosis. On the other hand, cases that present a septum, convex on one side with a depression or corresponding concavity on the other, I should class as deformities or deflections of the nasal septum.

Deflections are termed oval and angular, according to their shape; and all other forms are but varieties of these two. Oval deflections are generally confined to the cartilaginous septum. They are smooth on the surface, oval in outline, and the mucous membrane is thin and somewhat atrophied. Angular deflections may involve the entire septum. They are wedge-shaped; hypertrophied at the apex, and their longitudinal axis is horizontal, vertical, or oblique. Many of the so-called ecchondroses and exostoses are ridges of cartilaginous and bony structure, seen extending along a suture and projecting for a variable distance into the nasal cavity, and what Lenox Brown calls hyperostosis of a sutural line.

Osseous growths, generally cartilaginous in their early formation, are divided into cancellous and ivory; and, sometimes, we find them so hard that it is almost impossible to cut through them with a saw, and we have to use the cutting forceps to remove them.

As to the causes of these changes in the septum may be mentioned: Injury to the nose; frequent irritation of the septum by a turgescent turbinated body, producing at the point of contact a hypertrophy of the mucous membrane; changes due to the healing of ulcers in syphilis; disturbance of atmospheric pressure, due to post-nasal growths, and other interferences with nasal respiration; excess of development of a septum, during its formation.

The fibro-cartilaginous tissue of which the septum is com-

posed, does not ossify in early life. When the changes take place, they do so with such activity that excessive development is often the result—causing a bulging or deformity of the septum.

In addition to the obstructions due to changes in the nasal septum, we have a stenosis of the nasal passages, caused by swelling of the turbinated bodies of first one side, then the other, the result of weakness of the muscular coats of the blood-vessels from chronic congestion, due, as some claim, to diminished atmospheric pressure. To these may be added obstructions due to polypi and other neoplasms.

There is no doubt that these obstructions and contact of tissue are the cause of a host of reflex symptoms. The most marked of all are neuralgic headaches—referred to the bridge of the nose. The other symptoms are cough, sneezing, epistaxis, pharyngitis, laryngitis, anosmia, inflammation of the eye and middle ear. Its effect on the eye is brought about by a constant irritation, communicated to the conjunctiva, from the inflamed mucous membrane of the nose through the lachrymal passages; on the ear by the swollen condition of the naso-pharynx, and by direct extension of the inflammation of the middle ear. I think fully eighty per cent. of the cases of deafness are due to nasal catarrh, the difficulty being that the treatment is commenced too late to be successful. To these may be added disturbance of cerebral function—as aprosexia, or the inability to fix the attention on any definite or more or less abstract subject. Singers lose their voices as the result of nasal obstruction. Many have the most serious difficulty in attaining upper or head register, so-called head notes—as a given note—E—being the note with which the difficulty is most frequently experienced. I have seen such a difficulty, which had annoyed a professional singer for over a year, disappear two weeks after the removal of the nasal stenosis. If any singer has any doubt about this, let the party plug up both nostrils, and try to produce the head notes, and it will not be long before the individual will be convinced of the truth of my assertion.

The nose is not only the organ of olfaction, but has other very important functions to perform. It is especially concerned in phonation—giving a certain character and resonance to the voice. Removal of nasal obstructions raises the pitch of the voice, and improves its timbre. It has also special duties to perform in connection with respiration—surcharging the inspired air with moisture and heat. However low the atmospheric temperature, the air is raised almost, if not quite, to the temperature of the blood on passing through the nose alone, and before reaching the pharynx. However dry the external air may be, on passing through the nose it is completely saturated with moisture. This can be easily demonstrated by the simple test of plugging both nostrils, and breathing through the mouth. It is held that the nose is the natural respirator, and that so long as breathing through the nose is possible, there will be no need for an apparatus covering the mouth, to warm, filter, and moisten the inspired current of air.

To properly enjoy these functions, it is necessary that the nasal cavity be in a healthy condition, free from all obstructions—so that the inspired air shall have free access to all parts. Now, if these obstructions are the cause of so many reflex symptoms, the question that presents itself to us is, What shall we do to remove them? Continue to relieve them by the spray and douche? or wait until we can, from the totality of symptoms, discover a homœopathic remedy that will produce shrinking of the parts? or shall we remove them by surgical interference, and then, with mild local applications and the carefully selected remedy, cure our patients?

For nearly two years I have been removing these obstructions, and before I would go back to the old way of treating nasal stenosis I would give up the practice of medicine. I don't want to be understood as advocating the removal of every projection or ridge that we find in the nasal cavities, but where there exists obstruction, which, in the judgment of the physician, is sufficient to cause the trouble complained of, it should be removed; and in nine cases out

of ten, such a course will be followed by gratifying results. If a patient comes to us with an obstruction due to a polypus—let it be ever so slight—we remove it immediately; then why not remove obstructions due to other causes? I believe it to be the duty of every physician to remove these, or send their patients to some one who will, and then they will have no trouble in curing their cases of nasal catarrh.

Previous to all intra-nasal operations, I treat the nasal mucous membrane with a view to reduce the existing hyperæmia and irritability. This having been accomplished the operation should be begun by anæsthetizing the parts thoroughly—so that all pain may be avoided. This is best accomplished by introducing a pledget of cotton, saturated with a ten or twenty per cent. solution of cocaine, into the nasal cavity, so as to cover the parts to be removed, and leave it there about ten minutes. Having satisfied ourselves that all sensibility has been destroyed, we should perform the operation with as little inconvenience to the patient as possible. And this can only be accomplished by adapting the instruments to the requirements of the case. Various writers, after speaking of the different instruments used in performing intra-nasal operations, would have us believe that these operations could be more easily performed with their pet instrument. Thus we find Seiler claiming that he obtains better results with his chisel and gouge; Bosworth, with his saw; Curtis, with his nasal trephines; and so on. I make use of the burrs, saw, trephines, chisel, and my own instrument—the nasal file. I do not offer this instrument as one to take the place of all others, but as a valuable addition to those we already possess for intra-nasal surgery.

Owing to the manifold peculiarities of different nasal passages, and the irregular character and location of the growths met with, I do not think we have any one instrument applicable alike to all cases. It should be our aim to utilize that instrument, or those instruments, which will give the least disturbance to the patient, consistent with

the best attainable results. After using the saw, if the piece is not thoroughly cut through, it can be removed with Knight's scissors or cutting forceps. To remove a portion of the turbinated bodies, I use either the galvano-cautery, Smith's canula, or Knight's scissors, the wire snare or cutting forceps. McDonald's operation, with a view to saving the mucous membrane, is performed by making a single incision over the most prominent point of the neoplasm, well down to the cartilage. Then the perichondrium, with its inseparable mucous membrane, is turned up and down sufficiently to expose the portion to be removed. Next, the superabundant cartilage is separated with a chisel, gouge, or saw—if it proves to be ossified. The flaps are then allowed to fall together, and the wound is dressed with iodoform wool, exerting a gentle pressure upon the flaps, and assist in retaining them in their position.

While there is a great saving of the mucous membrane, the objection to it is, that, during the operation, the hæmorrhage is often so profuse that it obscures the seat of operation during the later stages; and we are obliged to wait until the bleeding from the incision has ceased before we can pare away the superfluous cartilage. By this time, the anæsthesia produced by the cocaine will have passed off, causing considerable pain. I prefer the other operation—as it can be performed in less time, and, moreover, there is no bad cicatrix resulting. The mucous membrane reforms over the cut surface, and at the end of six weeks it would be difficult to discern that any operation had been performed. I have also used Dr. Goodwillie's nasal intubation tube for the relief of nasal stenosis, but have never seen any great benefit from its use. The hæmorrhage from these operations, as a rule, is comparatively slight, but in some cases the bleeding is profuse. After cleansing the cavity with some antiseptic solution, I place against the wound a thin pledget of cotton, saturated with a solution of the aceto-tartrate of aluminium, which is a disinfectant and a mild astringent, and leave it until the next day, when I again wash it out with the antiseptic solution. I have

operated on more than two hundred cases, and have never had alarming secondary hæmorrhage, and have never been compelled to plug the posterior nares.

I would like to say a few words in regard to the use of cocaine. I desire to correct some wrong impressions.

First, it is not necessary to use a fresh solution each time we operate. I have operated with a fresh solution, and with one that I have had in my office two and three months, and if there is any preference, it is in favor of the latter. In fact, sometimes I am inclined to believe the solution improves with age.

Second, I have never found that it produces such a dangerous result, or is the cause of secondary hæmorrhage. There has never been any evidence produced to prove that such was the case, but, on the contrary, there is some evidence that would tend to prove that we did not have as much hæmorrhage when using the stronger solution as when using the weaker ones, or none at all.

Thus we find in such a recognized authority as Bosworth, who has operated on a large number of cases, advising the use of twenty per cent. solution of cocaine, and asserting that he has never been compelled to plug but in two cases, and only directs his patients not to expel the clot for three hours; while Lenox Brown not merely advises the use of twenty per cent., but in some cases even stronger solutions.

Miss R. came to me in February, 1890, complaining of severe headache, difficulty in hearing, constant irritation in the nose and sneezing. On examination, I discovered an ecchondroma on both sides of the septum, and on the other side of the nasal cavities, hypertrophy of the inferior turbinated body. After an application of a ten per cent. solution of cocaine, I removed, with a Bosworth saw, the one on the right side. I had profuse bleeding, with some oozing for hours. After one month, I operated on the other side, using this time a twenty per cent. solution, with the result of less primary hæmorrhage and little or no oozing.

In October, Mr. C. came to me, complaining of sore throat and obstruction of the nose. I found the pharynx very dry, and in the right side of the septum an ecchondroma; in the left nasal cavity

an enlarged inferior turbinated body. After applying a ten per cent. solution of cocaine, I removed the ecchondroma with Curtis's trephine and nasal file, which was followed by profuse hæmorrhage. Six weeks after I removed a portion of the turbinated body, using this time twenty per cent. solution of cocaine, having less than one-half the hæmorrhage and no secondary hæmorrhage.

Mrs. S. complained of constant headache and hoarseness, and said she was constantly catching cold, had attacks of sneezing, and could not breathe through the nose. On examination I found both nasal cavities obstructed. On the right side there was a deformity of the cartilaginous septum. On the left side a deformity of not only the cartilaginous, but bony portion of the septum. This, with the enlarged turbinated bodies, caused complete obstruction of this side of the nose, keeping up a constant irritation, which led her to believe that she had a cold in the head. I found the pharynx very dry, this dry, glazed appearance extending down into the larynx, also some slight inflammation of the cords. Applying a ten per cent. solution of cocaine, I removed with the trephine the obstruction on the left side. The hæmorrhage was not so profuse at the time, but she had considerable oozing all through the night, and part of the next day. Four weeks after I operated on the other side with a twenty per cent. solution, removing more of the septum than I did in the first operation, as I had to remove both cartilage and bone, and with no more hæmorrhage during the operation, and no oozing afterward.

Miss B. has been treated for over six months by prominent specialists for trachoma, or granular lids. Different applications had been tried, but without success. She came to me complaining of severe headache, and told me she had a badly obstructed nose. In examination, I found the right side completely obstructed. Applying a ten per cent. solution of cocaine, I removed a portion of the obstruction. Three weeks after, I removed the remainder, using this time a twenty per cent. solution. The result was the same as in the preceding cases—less hæmorrhage, less oozing afterward.

In the first case there was complete removal of all the symptoms after the applications.

In the second case there was not only entire relief of all the symptoms complained of, but without my mentioning that the oper-

ation would have any effect on the eyes—because I did not know that there was any eye trouble—the patient remarked that he did not know whether it was imagination or not, but he could see much better since the operation.

In the third case the hoarseness entirely disappeared, and there was such a change in the voice it attracted the attention of every one who came in contact with her. She also informed me she had no more colds in the head.

The fourth case was cured of her headaches and catarrh, and the last time I saw her had not had any more trouble with her eyes.

I could go on, and give case after case, which I believe would not only prove that strong solutions of cocaine are not the cause of secondary hæmorrhage, but that great benefit is to be derived from operations performed in the manner indicated. Furthermore, I honestly believe that the cases I have referred to could not have been cured by any other means.

PRIMARY ACUTE INFLAMMATION OF THE EXTERNAL MASTOID REGION.*

BY SAYER HASBROUCK, M.D., PROVIDENCE, R. I.

There has been described a diseased condition of the mastoid region known as "periostitis mastoidea" (Politzer), or "primary acute inflammation of the external mastoid region" (Burnett), a form of mastoid disease coming on primarily in the mastoid region with little or no inflammation of the middle ear or its appendages. Authorities agree in placing it among the rare forms of ear disease. In fact, a good many have the feeling that some form of middle ear disease must have been the starting point, and on general principles I have felt very much that way myself, as up to this time I have always been able to trace a close connection between the two in mastoid troubles. At present I feel quite sure that it is possible for an inflammatory action to start primarily in the mastoid region and, as in my own case, while we are, so to speak, off our guard.

Politzer's description of the symptoms and nature of an attack are so concise that I will append them here :

"The inflammation, which occurs after catching cold but usually without any traceable cause, affects either a limited part of the periosteum, or spreads over the mastoid region even to the temples. It is characterized by the formation of a hard, usually red swelling on the mastoid process, which becomes ill-defined toward its margins and is painful on pressure. Sometimes, though not constantly, the supe-

* Read before the New York State Homœopathic Society.

rior portion of the sterno-cleido-mastoid muscle is, as Knapp first observed, involved in the inflammatory process. With the exception of a slight reddening on the posterior wall of the auditory meatus, no inflammatory symptoms are to be found on the membrana tympani or in the meatus.

"The function of hearing is normal, rarely weakened by old standing adhesive processes in the middle ear or by accumulations of serous fluid.

"The most prominent subjective symptoms are violent spontaneous pains in the inflamed area, which radiate in various directions over the head. The accompanying pyrexia is usually moderate but may reach a high degree if abscesses form.

"The diagnosis depends on the objective changes of the mastoid process, taken together with the absence of inflammatory phenomena in the other portions of the temporal bone. In long continuance of the infiltration and pain, the possibility of a secondary affection from inflammation of the external periosteum, extending to the interior of the mastoid process, cannot be excluded. It is possible by a superficial examination to confound this with those painful swellings on the mastoid process which sometimes exist in cases of deep-seated furuncles on the posterior wall of the auditory meatus or in primary inflammation of the lymphatic gland lying on the mastoid process, where it cannot be easily moved."

Politzer further says: "The prognosis of primary periotitis mastoidea is favorable."

After this very characteristic description a case in point cannot be otherwise than interesting. Personally, I was very much interested in the case, but I will confess that for a long time I had but little idea of the nature of the trouble.

My patient came to me on the 23d of last October stating that he had had what he called a cold for the past week, but if it were not for the severe pain at times about his right ear he shouldn't think much of it, but this made him feel rather anxious, as he considered his right ear by far the more useful, and even this was not much to brag of, as the hearing distance with the watch was only five or six inches; still, that of the left was only in contact, both

being the result of middle ear trouble after measles or scarlet fever in childhood.

On close inspection of the mastoid region, meatus, and membrana tympani, and on inflation of the eustachian tubes and middle ear, I was unable to find the slightest evidence of inflammatory action. From the location of the subjective symptoms and from lack of a local evidence for a cause, I concluded the symptoms must arise from a number of decayed teeth on the upper jaw and advised their extraction. My patient insisted that they did not ache and was rather loth to believe that they were the cause, and being anxious just at that time to attend to business matters of importance, he decided to wait awhile, as he said he wanted to have all his back teeth pulled out at once ; but as every few days he would report the same old story of terrible pain about the ear, and as each examination failed to offer any other cause, I finally insisted, after fully two weeks of procrastination, that he must have the teeth extracted. The frequency of the attacks and the severity of the pain had now increased to such a point that he was willing to do almost anything, especially as the hundred and one remedies he had tried by every one's advice, gave but temporary, if any, relief. For a day or so after the teeth were removed he seemed free from pain and I congratulated myself that this was the end of the trouble, but no such good luck was in store for us. During the next week he remained close in the house for fear of catching cold in his jaw, as his mouth was quite sore, and just about the time he was beginning to think of again attending to business the pain about the ear returned worse than ever, and now the true nature of the disease began to show itself. I was told that the region back of his ear was all swollen and red, and on seeing him I found the mastoid somewhat red, swollen, and quite sensitive on pressure. I felt quite sure that we would now find middle-ear trouble, but a most careful inspection with inflation failed to show any evidence of inflammatory invasion.

I continued the poultice that I found he had applied when the swelling was first noticed, and prescribed Capsicum and Hepar sulphur. For a few days all the symptoms, except the tenderness of the mastoid region on pressure, seemed to improve, and against my advice, he started out to business.

I will digress a moment from my case to emphasize the

importance of absolute rest and quiet in the treatment of all forms of mastoid trouble, especially those cases where you hope to obviate an operation, or where the patient is convalescing after a successful operation. I have seen so much trouble where the patient could not be controlled that I cannot speak too forcibly of this point, as I believe that due attention to this fact will do more than anything else toward a speedy recovery. It must be perfect rest in bed, and, as far as possible, without being moved. This is a hard matter for your patient to consent to, as he generally thinks he is well enough to be up and around the ward or house.

As I said, my patient went out to business, and for a few days everything went well, but one afternoon he came into the office on his way home with the old pain and a puffy appearance of the mastoid region. I now painted the mastoid region with iodine and gave him some to apply during the night, at the same time repeating the Capsicum and Hepar sulphur, but in the morning the swelling was very much increased. I now ordered leeches, to be followed by a poultice ; the pain became less, but the swelling was now extending and had involved the sterno-cleido-mastoid muscle, as described by Knapp ; it also was pressing forward to the angle between the jaw and mastoid and at the same time was extending upward. The auricle by this time was standing out as in a marked case of mastoid inflammation. It was with difficulty that I was able to get a view of the membrana tympani on account of the swelling of the posterior wall of the meatus, and on inspection I found but little evidence of inflammation, this only showing itself by a slight redness in the upper posterior quadrant of the membrana tympani and with a speculum in the meatus ; he thought he was able to hear all right, but no comparative test was made.

On taking the temperature it was found to be 100.5° , an increase for the first time. This, with the increase of the swelling, made me feel that pus must have formed and I advised Wilde's incision ; but as the pain had been easier since the leeches were applied, he was not willing to have an operation at once, and for the next twenty-four hours I was forced to watch the case without improvement, and at the end of this time he willingly consented

to the operation, as the pain had returned. After a few whiffs of chloroform, I made a deep free incision to the bone and encouraged as free bleeding as possible. This put an end to the pain. At the time of the incision I was unable to detect anything that looked like pus, but in the morning there was a free discharge of laudable pus.

I now began the use of a weak solution of Peroxide of hydrogen, a remedy that in my hands for a number of years past has proven itself invaluable as a cleansing agent, and I have come to rely upon it as a most powerful disinfectant and antiseptic, perfectly harmless and usually without discomfort in almost any strength, though I make it a rule to use a weak solution at first, which seems to act fully as well as the stronger solutions ; still I am inclined to increase the strength, so that, in the majority of cases, I use the solution full strength. I have never been in the habit of depending upon it as the only thing necessary for the cure of my patient ; it has been with me a cleansing agent, to be followed by such treatment as seemed indicated.

On the fourth or fifth day after the operation, the discharge having stopped and swelling gone down, I allowed the incision to close. It is over two months since the operation and there has been no return of the symptoms.

To me the case has been an unique one, and almost a typical case of its class, from the insidiousness of its on-coming, characterized by attacks of severe pain in the region about the ear, without an apparent cause ; the freedom of the middle ear from inflammation throughout the whole attack, the train of symptoms being complete even to the invasion of the sterno-cleido-mastoid muscle, as described by Knapp.

On taking a retrospective view of the case, I hardly feel as though I ought to blame myself for my first diagnosis of dental irritation, especially when we consider the frequency with which the teeth are a cause of severe pain in the region of the ear.

THE MEDICINAL TREATMENT OF INCIPIENT CATARACT.*

BY WM. R. KING, M.D., WASHINGTON, D. C.

In considering this subject I will perhaps be excused if I begin with an apology. I sometimes fancy I may be riding a hobby, so often does my attention seem to have been called to this, to me, interesting subject; if you conclude that I am doing so, pray draw your lances and in the joust unseat me.

I feel, however, that in considering the possibility of benefiting, if not of radically removing, many forms of cataract in their incipient or even more advanced stages, I am making my argument largely among friends. I will omit here any description, anatomical or otherwise, of the condition of the crystalline lens designated cataract. The consideration of the different varieties of cataract need not occupy our time either, as their classification is largely arbitrary and properly designated and described by the title given them.

Coming fresh from special studies in the hospitals at Vienna, under the instruction of none but old-school masters, whose diagnosis of cataract meant almost invariably the dictum "a period of semi-darkness and then an operation," is it strange that many of the possibilities to be derived from remedies, internally administered, in such cases were overlooked, even though our literature at that time contained many reports of cases of so-called cataract having been improved or dissipated by the internal administration

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of homœopathic remedies. Such statements have often been disposed of with a question as to the accuracy of diagnosis, especially when they emanated from those not considered skillful in the use of the ophthalmoscope. The time, however, has passed for raising a doubt as to the accuracy of the diagnosis in many of the cases reported. Men skilled in the use of all diagnostic instruments have in numerous cases borne testimony to the presence of cataract which ultimately cleared up, wholly or in part, during internal medication.

The difficulty in the way of successful medicinal treatment of cataract arises often from the scarcity of symptoms or pathological conditions requisite in making a thorough and scientific prescription, in fact, in many cases, I must admit my prescriptions are entirely empirical and based largely on general considerations and past experience.

My practical experience in this matter began with the following case, before recounting which I wish to disclaim the credit of anticipating the result obtained, as it was clearly a case of blind luck and a stumble.

CASE I.—MR. S., æt forty-eight, though looking much older, had been an officer in the United States Navy, but owing to general physical disability was discharged some years before. He had lived a rapid life, and, as above stated, had perhaps experienced more wear and tear than most men of his age. I found him with hemiplegia, the left side being quite crippled, and having a history of several paralytic attacks during the previous four years. He had been greatly addicted to the use of stimulants, and even during treatment did not refrain from excesses, which generally terminated with an attack of *mania à potu*. For at least one year previous to consulting me his vision had failed so markedly that, when first seen, it was impossible for him to read his newspaper in any light. Examination revealed unmistakable cortical cataract in both eyes and nearly equal in each $V.=\frac{3}{60}$, sufficient to enable him to get about, though not enough to permit any definite use of his eyes. After completing the examination and giving him the diagnosis, I am sorry to say, I told him his fate was to await ripening of the cataracts, when an operation might

afford relief. My prognosis as to the operative results was guarded, owing to the impossibility of obtaining an accurate view of the post-lenticular region for the purpose of excluding pathological changes in the fundus, probability of which being enhanced by reason of his habits and his several hemiplegic attacks. Suffice it to say he made, at this time, some complaint of other annoying symptoms for which he requested a prescription. These were mainly stomachic and fitted a partial proving of Iodoform which I had just been reading, and this remedy was given him; an occasional dose to be taken as he seemed to require it, and with the request that he return at convenient intervals to let me watch the progressive changes in the lens, I dismissed him.

In something like six weeks he returned and greeted me with the inquiry: "I say, doctor, did you give me anything to clear my vision?" Not feeling exactly certain as to the nature of the ground I was on I made some diplomatic response and seated him for examination.

I could scarcely restrain my surprise at the changed appearance the masses of cortical flakes had assumed. They were scattered, less opaque, and fewer. Making at this time a careful diagram of the appearance of the pupillary area, I was enabled to demonstrate, at subsequent examinations, the gradual disappearance of the opacities, and, needless to remark, continued the remedy. Within three months after the first dose of Iodoform 3x, he was able to read the newspapers by good daylight, and in six months by gaslight as well. Soon after this time he ceased active treatment, feeling satisfied with the amount of improvement. $V. = \frac{5}{15}$.

The full amount of improvement in vision was apparently permanent, as it was retained until his death, two years later, the immediate cause of which was cerebral apoplexy.

Subsequent experience was obtained in the following:

CASE II.—Mrs. L., æt. forty-five. Stout, florid complexion, and in general quite robust and healthy. Complained of failing vision in the right eye for the previous six or eight months. Examination revealed a rather dense cortical cataract, evidently progressing rapidly, for the striæ in the cortical substance were broad and extended from the periphery nearly to the center of the lens, and interspersed between these were numerous flakes

and flocculent masses of various sizes and shapes. A rough sketch of the pupillary area was made for future reference and treatment was begun. The prognosis was guarded, especially as there was direct history of hereditary cataractous tendency, her father having had complete cataracts in both eyes which made their appearance at about the same age as those in the case now under consideration.

An effort was made to obtain some general clinical indications for a prescription; in the absence of any very clear ones she was given Sulphur 30th, three times daily for a few weeks. This was followed by no evident change in the progress of the conditions existing. However, some circulatory disturbance became marked and *Secale corn.* 3x was given, which checked the extension of the cloudiness, and in a few weeks, produced decided improvement of vision, manifested by increased ability to read Snellen's types at a given distance more readily at each successive test. After the improvement had continued some time she became careless in her attentions to the eye, mainly perhaps because the left eye remained perfectly clear. In some two or three months she returned complaining again of increasing impairment of vision. The opacities had again increased and assumed renewed activity, though not so marked or so dense as before. The same remedy was administered, with similar though not as prompt result, and at present her vision in this eye equals $\frac{5}{16}$ scant, as compared to $\frac{5}{50}$ when first seen. She has had no treatment for over three months.

CASE. III.—Judge K., æt. seventy, failing vision for over a year, both eyes involved. The increase was "slow but sure" as he expressed it, until it interfered with his business, that of practicing law. On examination the following condition was found R. E. V. = $\frac{5}{30}$ scant, L. E. V. = $\frac{5}{25}$ scant. In the right eye the opacity took the form of two arms of a triangle with its apex at the center of the lens, innumerable small flocculent masses being interspersed. In the left the principal opacity was in the form of a spear, the shaft extending from the lower periphery, with a distinct image of a spear-head at the point opposite the nucleus of the lens. Many smaller opaque and semi-opaque flakes were also present. Treatment consisted in the use of massage carefully applied to the eyeballs through the closed lids, and the use of various remedies at different times, including Sulphur, *Secale*,

Causticum, Phosphorus, Lycopodium, etc., with no apparent result except that the progress of the affection seemed to be stopped, or at least became unappreciable by careful tests of the vision. Finally, on general principles, Iodoform 3x was prescribed at intervals, followed soon by decided, though slow, improvement in vision. He is still under treatment and $V.=\frac{5}{10}$, both eyes. A not very great though a much appreciated improvement.

CASE IV.—Miss P., æt. sixty-eight, in only average health. After having gone the rounds of local oculists she came under my observation with the right eye blind, and rapidly failing vision in the left. I found complete capsular cataract in the right eye, and in the left numerous advancing spicules of opacity extending from the periphery toward the center of the lens. Sight in this eye was still fair, $V.=\frac{5}{10}$ for distance, but more manifestly affected for near vision. This lady was addicted slightly to the morphia habit, and though using very little at a time required it daily. Owing to this unfortunate condition very little hope was given, but a trial was solicited. At different times she received numerous remedies, but the best results invariably followed the use of Iodoform 3x, until finally her vision became normal for distance and was much improved for close work. The opacity of the right lens, especially at the outer segment, became much less dense, with final appreciation of lights and shadows and of large moving objects. However, at the height of a seeming conquest she was brought to my office one morning almost blind, with a history of sudden failure of vision, following a severe nervous shock. Examination revealed the following conditions: Vision equaled ability to count fingers at four feet. No pain in the eyes whatever. The ophthalmoscope showed no increase in the lenticular opacities, and very little change at the fundus except a general anæmic appearance of the optic disk and retina. The symptoms procurable indicated Phosphorus, which was prescribed in conjunction with a mild galvanic current to the eyes. This treatment was followed by gradual though encouraging improvement, until at time of writing she is able to come to my office alone and $V.=\frac{3}{30}$ with the left eye, less by far than before this late unfortunate complication, but not due to any increase of the lenticular opacities and infinitely better than darkness and helplessness.

CASE V.—Mrs. K., æt. sixty-two, in general good health, with a history of impairment in vision of left eye, which occurred suddenly some two months before. In this eye vision equaled ability to count fingers at five feet. In the right V. = $\frac{5}{10}$. She had noticed only gradual increase of dimness in the right eye for some five or six months, and this she ascribed to natural causes and endeavored to correct with stronger lenses, but was unsuccessful. In the left eye, with the ophthalmoscope, I found the media clear, but the mischief was at the fundus, and a diagnosis of retinitis apoplectica was readily made. The prognosis was bad for ultimate useful vision for this eye. In the right eye the fundus was found to be normal, but the cortex of the lens was filled with numerous small diffused flakes, especially marked in the lower quadrant. The treatment of the left eye will not be here considered as it does not rightly belong to the subject of this paper. In the treatment later directed to the incipient cataractous condition, the only remedy was Iodoform 3x, and now her vision is normal (V. = $\frac{5}{5}$) for distance, and is apparently handicapped for reading and sewing only by the condition of the other eye, which is still under treatment and improving.

CASE VI.—Dr. M., æt. fifty-eight, allopathic physician, in active practice, consulted me on account of double cataract, incipient but rapidly progressing. History as follows: He had consulted several oculists of his own school, and obtained a formal and scientific diagnosis. Nothing was offered him, however, but a tedious waiting, a period of blindness, and an eventual operation. He objected to this, not alone from aversion to operative measures, but because the long period necessary to maturity would entail his withdrawal from active practice. Having heard that homœopathy had succeeded occasionally in at least bringing such conditions to a standstill, he asked if I had anything to offer him. After making a thorough examination and verifying the former diagnosis, I assured him that it was more than possible that his vision might be retained in its existing state, and perhaps improved, by medication. At least he would have the grim satisfaction of not being compelled to sit helplessly by and await the time when the knife could properly be brought to his relief. His vision at this time was about $\frac{5}{25}$ for distance, though my notes relating to the early stages have been mislaid, therefore I must draw somewhat upon my memory. For various reasons and conditions

then existing I gave him Sulphur 30x, and continued it for a period of eight months. At the end of that time, now three years ago, his V. = $\frac{6}{10}$. In the mean time he has been actively engaged in attending to a large practice. He has very little complaint to make with reference to his eyes, though active medication was discontinued after eight months, and no examination has since been made. I frequently encounter his family and friends, and they repeatedly assure me that he never complains of visual defect.

These are but a few of the cases of incipient cataract that have come under my care and been treated medicinally; others have given and still are giving marked indications of improvement. Some have failed in obtaining the prompt relief they desired and have drifted away, presumably, to find ultimate relief on the operating table after completion of the process involved.

In recounting these cases I would not be understood as detracting, in the least, from the glorious results following the use of the knife in such a large proportion of cases of mature cataract; but I would call attention in my own way to the possibilities existing in homœopathic therapeutics for anticipating, in many cases, the conditions calling for the operation.

In conclusion, let me say I have never seen any decided results from medication in a case of nuclear cataract sufficiently developed to demonstrate the hardened nucleus, neither do I expect to, for here we have profound senile degeneration, in the treatment of which operative procedures alone are efficacious.

BOROGLYCERIDE IN OTITIS MEDIA SUPPURATIVA.

BY E. H. LINNELL, M.D., NORWICH, CONN.

Boroglyceride is a synthetical product formed by gently heating over a water bath sixty-two parts of boric acid and ninety-two parts of glycerine. Upon cooling, the resulting compound is an amber-colored vitreous mass, which is very friable and very hygroscopic. It is readily soluble in glycerine, but less so in hot or cold water. It is prepared and sold in a fifty per cent. solution in glycerine, which is of about the consistency of honey. It is antiseptic and astringent, and, from its hygroscopic quality, it diminishes congestion and swelling when applied to mucous membranes. My attention was first directed to its use in purulent affections of the ear by an article by Richard C. Brandeis, M.D., of New York, which appeared in Knapp's *Archives of Otol-ogy* for March, 1884. Since then I have used it quite extensively in my practice. In 1887 I published an article on the subject, giving my personal experience with it, and suggesting the class of cases in which it seemed most useful (see *Hahnemannian Monthly*, January, 1887). Since then it has come into considerable use in gynæcological practice, and to a limited extent in affections of the conjunctiva; but I have seen little or no mention, in the periodical literature, of its employment in ear affections, and I am thus led to conclude that it is not as widely known or appreciated by aural surgeons as it deserves to be. This, then, is my reason for writing the present article.

In almost any case where boracic acid, in powder or solu-

tion, is ordinarily used, boroglyceride will be found equally satisfactory in destroying the fetid odor, and lessening the amount of the discharge, and it is free from some of the objections which attend the use of the former. In some cases, particularly where there exists but a small perforation of the drum membrane, the powder cakes, forming hard masses, obstructing the discharge, and subjecting the patient to the risk of serious consequences from this cause. Furthermore, the prolonged syringing which is sometimes necessary to remove these inspissated masses is in itself irritating, and interferes with the healing process. From the hygroscopic character of the preparation, it removes congestion and diminishes swelling of the tissues, and in these respects it is superior to a watery solution of the acid. It is particularly indicated in sub-acute and chronic cases with offensive discharge and swollen condition of the mucous membrane of the tympanic cavity. Where there are redundant granulations or small polypi, equal parts of the boroglyceride (50 per cent. solution) and alcohol, dropped into the ear several times daily, is very beneficial. There are many cases which the surgeon cannot see every day, and where the treatment must be intrusted to the patient or his friends, with only an occasional visit to the physician. Here the boroglyceride is very satisfactory. It is not applicable to all cases. Some persons have an idiosyncrasy against glycerine in any form, and I have sometimes found the application of the boroglyceride irritating. Therefore I do not use it in acute cases or where there is a high degree of inflammation. Perhaps the addition of calendula would do away with its irritating qualities in these cases. The fifty per cent. solution, as it is put upon the market, is in most cases, too heavy and sticky, and I usually dilute it with an equal amount of glycerine.

The most satisfactory way of using it is to first thoroughly cleanse the tympanum and meatus of all secretion, avoiding the use of the syringe as much as possible. Then, while the patient holds his head well toward the shoulder opposite the affected ear, ten or fifteen drops are instilled into

the meatus, and he is instructed to hold his head in this position for some minutes. Where there is only a small perforation in the membrane, the use of the air douche or of Valsalva, while the substance is in the meatus, will insure a more thorough penetration of it.

Probably all the readers of this journal, in common with the writer, are in the habit of using, in most instances, internal remedies in the class of cases under discussion in connection with the local measures employed ; so that any narrative of cases thus treated would not exhibit the absolute and unaided effect of the local treatment. The following case, however, illustrates so unmistakably the favorable influence of the boroglyceride, that I may be pardoned for quoting it from the article above referred to.

CASE V.—John Lane, aged thirty-eight. Otitis media sup. sub-acute, with implication of mastoid. Is intemperate, and has had syphilis. Has had a discharge from right ear for three months, with pain in mastoid for two or three weeks. Pain is constant ; worse at night. When I saw him there was slight fever, an anxious suffering expression, and much debility. The mt. was somewhat injected, with perforation in lower anterior quadrant, and there was a moderate discharge of healthy looking pus. The mastoid was hot, somewhat sensitive, but not swollen. *R* Boroglyceride fifty per cent., *ter in die*. Kali hyd. *ix*, 2 hours. Four days later he looked like a new man ; said pain ceased in half an hour after he left my office, and had not returned with the exception of an occasional twinge. There was no tenderness or heat of mastoid and much less discharge. The edges of the perforation were swollen and mucous membrane of tympanum, seen through the perforation, appeared healthy. In this case it may well be questioned whether the potash or the boroglyceride was the more important factor in bringing about the rapid improvement, and fortunately the question is easy of solution. I administered one dose of medicine and instilled the boroglyceride in my office and the patient took no more medicine, as he lost the powders I gave him on the way home, but he was faithful in following out the local treatment. He was not seen again after the second examination.

CLINICAL NOTES.

BY W. E. GREEN, M.D., LITTLE ROCK, ARK.

CASE I.—Mr. K., æt. fifty, consulted me in March, 1890, on account of nasal obstruction, and severe facial neuralgia of several months standing, that affected the entire left side. The mouth seemed to be a special seat of irritation ; the teeth were sensitive, and the gums spongy and receding. The left nasal passage was entirely occluded, and the right greatly obstructed by hypertrophied tissue. Respiration was carried on entirely through the mouth, which greatly added to the discomfort. His general health was much impaired, and he was nervous and depressed in spirits. Several months before, his family physician had sent him to Dr. Frank Bosworth, of New York City, who performed some operation upon his throat ; he then went to Germany, when Dr. Juraz, of Heidelberg, also operated upon his throat. Two or three months later he returned to America, and again placed himself under the care of Dr. Bosworth, who did several operations upon the nose. Upon his arrival home, he applied to Dr. Murrell, a specialist of repute, for relief, who used the galvano-cautery upon his nose and treated him constitutionally (without benefit), until he came to me. I suspected a syphilitic origin of the disease, but failed to get an acknowledgment of the fact ; however, I decided that the nasal obstruction was responsible for much of the trouble and that it should be removed by operative procedure. Accordingly, with a burr propelled by an electro-motor, I cut away all the thickened tissue on the septum, and the left middle turbinated bone, throughout its entire length, making an opening through which I could pass my little finger. This gave ample breathing space, and, for a time, relieved the neuralgia ; but within ten days the channel was again completely closed by a proliferation of friable granulating tissue, and the pain returned

with increased severity. I now determined that I had to deal with syphilitic causes, and, accordingly, prescribed :

℞ Kali. hydriod. ℥ j
 Water q. s. ad. f ℥ ij
 M. Sig. Five drops every three hours.

Within one week I had the satisfaction of seeing the granulations commence to disappear and the pain subside ; at the expiration of one month he was entirely free from pain, and the left nostril offered no obstruction to free respiration. I now removed an ecchondrosis from the right side of the septum with the knife, and all the turbinated hypertrophies on this side with the cold wire snare. About this time, there developed an interstitial keratitis in both eyes. I increased the dose of kali., and applied a mildly stimulating collyrium. I announced to him the positive origin of the trouble; when he stated that he had misunderstood my previous interrogations in the matter, and that he had had syphilis twenty-five years ago when in the army. He gradually improved, and within a short time was entirely restored, and has remained well ever since.

CASE II.—*Secondary Hæmorrhage Following Operation upon the Nose.*—January 15, 1891, I removed with the cold wire snare a large hypertrophy from the left middle turbinated bone, in a girl fifteen years old. But little bleeding followed the operation, and the patient seemed to get along well until the evening of the seventh day, when a violent and persistent hæmorrhage came on. When I saw her, she was very weak and faint from the loss of blood. Owing to the exsanguinated condition, temporizing measures were not for a moment to be considered ; therefore, I passed a piece of small rubber tubing through the nostril into the throat, then with a long pair of forceps I grasped it from behind the palate and drew it forward through the mouth ; to this I tied a silk cord with a pledget of cotton attached, which I drew, by way of the naso-pharynx, up into the posterior nares, firmly plugging it ; then with a probe and cotton I quickly closed the anterior meatus ; this effectually controlled the bleeding. During the second night, before the plugging was removed, and while the patient was asleep, the hæmorrhage again came on. When I arrived I found that she had vomited large quantities of blood, which had been swallowed during sleep ; the pillows and bedclothes were satur-

ated and the patient was almost pulseless. During this weakened condition of the heart's action, a coagula had formed and the bleeding had ceased. I removed the plugs on the next day and no further trouble ensued.

This case was peculiar on account of the small amount of the primary bleeding and the time that elapsed before the secondary attack came on, and the large amount of blood that was lost. I have had two other similar experiences in the past two years, and though I had to plug the posterior nares in both cases, neither was as severe as this one.

CASE III.—*Hæmorrhage Following Excision of the Tonsils.*—Mrs. T. consulted me on account of a throat trouble. Upon examination, I found, in conjunction with nasal hypertrophies, chronic enlargement of the tonsils, which I at once removed with the guillotine. Nothing unusual occurred until the fifth day, when a severe hæmorrhage set in. I was summoned about 4 a. m., and found that she had lost considerable blood. There were no vessels spurting, but a general capillary oozing seemed to be going on. I tried various styptics, such as Tannin, Persulphate of iron, etc., but without effect. I then placed the tip of my index finger against the cut surface and applied continuous pressure for half an hour, when I found that the flow was perfectly and permanently checked.

CASE IV.—Mrs. W. consulted me on account of chronic follicular tonsilitis. I injected Cocaine into the crypts and removed the offending glands with the tonsilitome; about one hour after, a severe hæmorrhage came on from both wounds. Mackenzie's Tanno-gallic acid solution, Monsel's solution, and hot water were used without effect; I then, with a broad cautery knife, seared the cut surfaces, which promptly controlled the bleeding.

CASE V.—*Almost Fatal Depression of the Heart, Following the Local Application of Cocaine.*—Was called early one morning to see Mr. B., who had been bleeding from the nose for several hours. A physician had been in attendance during the night, and had used all the ordinary measures usually recommended for the control of epistaxis. I at once removed the clots in the nostril, and applied, with a pledget of cotton, a four per cent. solution of Cocaine preparatory to plugging. In about five

minutes he grew sick at the stomach, and began to vomit ; his pulse disappeared at the wrist ; he became pale, and a cold perspiration stood out over the surface of the body ; in fact, death seemed imminent. He called his family about him, and, in an excited manner, bade them good-by. An unusual scene of tumult followed ; though I was cool and firm, I really thought that my patient was on the point of expiring. As quickly as possible, I injected, hypodermically, one fiftieth of a grain of Digitaline and one-half ounce of whisky ; in a few minutes he became more quiet, his pulse soon became perceptible at the wrist, and within an hour he seemed all right. The family, not knowing the cause of the almost disastrous experiment, to this day extol my skill and relate the marvelous manner in which I saved the patient's life.

I have had many accidents from the use of Cocaine, but this one came nearest proving fatal. Of all remedies that I have used for relief of the heart depression following the use of the drug, Digitaline occupies the first place. Even when given by mouth, the effect is almost magical. I usually prescribe two grains of the 2x trituration of Digitaline, dry, upon the tongue.

CASE VI.—*Suppurative Otitis Media, Following an Operation upon the Septum.*—Miss P., blonde, æt. twenty-five, consulted me on account of a persistent headache of long standing. Upon examination of the nose, I found a large amount of hypertrophied tissue in either nostril, that I thought might cause the trouble ; a large ecchondrosis, running well back, greatly occluded the left passage. This I cut away with the burr, and applied a pledget of styptic cotton to control the hæmorrhage ; much pain and soreness followed the operation. On the morning of the second day she was attacked with a protracted chill, that was attended with aching throughout the body, neuralgic pains in the left ear, and high fever. These symptoms continued unabated for several days. The nose was kept cleansed with an antiseptic spray ; dry heat was applied to the ear and adjacent structure, and Ferrum phos. 6x and Arnica 2x were administered internally. On the fourth day I punctured the tympanic membrane, which gave exit to a sero-purulent discharge ; the ear continued to exude a bloody water for three or four days. At the expiration of a week, the

inflammatory symptoms began to subside and within a fortnight the patient, excepting a slight deafness, seemed to be entirely well.

It is not uncommon to have a mild otitis developed after any of the operations upon the nose, but it is seldom that we see such marked septic infection follow even the most formidable ones. My experience teaches me that we are more liable to have constitutional disturbances set up after operations performed with the electro-motor machine, than after the chisel, saw, or knife.

ICE IN IRITIS.*

BY CHAS. H. HELFRICH, M.D., NEW YORK.

The impression that ice ought never to be used in any form of iritis except the traumatic has grown to be regarded as almost an absolute rule. So strongly has this rule been impressed upon our minds that it requires some boldness to break from it.

This limitation in the use of ice has been the result of the uniform benefit derived from its use in traumatic iritis and the almost universal experience that heat is applicable to the other varieties. It was my original purpose to cover the whole domain embraced by the title of the paper, but lack of time has prevented me from accomplishing it. Therefore I desire simply to call your attention to a peculiar form of iritis, not of traumatic origin, where the use of ice is a valuable adjunct.

This peculiar form might appropriately be termed an irido-conjunctivitis, as the diseases coexist.

Of course I am aware that in every case of iritis the conjunctiva is more or less involved, but in the cases under consideration the conjunctivitis is very pronounced, and the course of the disease differs from the ordinary form, though it simulates rheumatic iritis. The cases, happily, are not very common, but when they do occur are a trial to both the surgeon and the patient, on account of their slow, tedious course, and their exasperating tendency to resist treatment.

* Read before the New York State Homœopathic Medical Society, February, 1891.

The number of cases treated with ice is limited to three. A detailed description of them will follow. The cases usually occur in people who use their eyes a great deal, and the first symptoms are those of a pronounced catarrhal conjunctivitis. It is only after several days have elapsed that the pericorneal injection, the haziness of the aqueous humor, the immobility of the pupil, and the severe pain appear.

The disease as a rule first appears in one eye, but soon extends to the other. Frequently temporary ameliorations occur, but they are followed by relapses, or one eye may be ameliorated and the other aggravated.

In these respects they are closely allied to rheumatic iritis, under which classification they probably belong.

The average duration is about seven weeks, but it is my impression that it could be reduced to four weeks or even less if ice were applied early. The method of application is the use of an ice-bag, which permits the patient to assume any position and avoids all moisture.

It is necessary to keep the patient under close supervision, as the continuous use of the ice may affect the nutrition of the cornea. If such a result supervenes the ice must be discontinued.

CASE I.—T. M., aged twenty-six, a clerk by occupation, applied for treatment on April 29, 1889. Both eyes were affected at the time, but the trouble had appeared in the right eye originally. The objective appearances were those of a catarrhal conjunctivitis involving both the ocular and palpebral conjunctiva. The lachrymation was very profuse and the photophobia intense. I tested the mobility of the pupil and found it reacted promptly. Rhus was given and the patient ordered to report in a few days. On May 1 he reappeared. The conjunctivitis had not been benefited by the treatment, and inspection revealed the fact that an iritis had appeared during the interval. The pupil was reduced in size, and though not adherent to the capsule of the lens, it responded sluggishly. The aqueous was hazy and the cornea surrounded by the characteristic redness. He had suffered considerable pain, which was chiefly located along the supra-orbital ridge, and was aggravated at night. I advised him to come to the hospi-

tal at once, which he consented to do. He was put to bed and the usual cotton pad applied to the eye. Cinnabaris was given internally and Atropine instilled locally. The pupil soon attained its maximum dilatation, but no amelioration followed. This condition continued unchanged for ten days, during which time he was given successively Aur. mur., Merc. cor., Rhus, Bell., Bry., and Merc. dulc.

Thinking that perhaps the Atropine was acting as an irritant I first substituted a solution of Duboisia and then Hydrobromide of hyoscyamine, but there was no apparent difference. Finally I made up my mind to break the tradition and applied an ice-bag. The disease was improved from the start and five days later he was discharged, cured. Several weeks later I corrected a slight degree of myopic astigmatism.

The second case was a patient of the late Dr. Geo. S. Norton. He was a stout, irritable gentleman, forty-eight years of age, actively engaged in business. He first visited Dr. Norton on February 2, 1889, who made the following record in his case book: "For one month has had constant dull aching in the head aggravated in the morning and worse on the left side. For two days past the left eye has been inflamed, with considerable soreness extending up into the head; some ciliary injection. Pupil reacts but is a little sluggish. Bryonia and Atropine."

The subsequent history was very similar to the case just cited.

He was persuaded to come to the hospital, where he remained under treatment from February 7 to March 4.

Finding Dr. Norton's patience almost exhausted, I suggested the use of ice and repeated my own experience with it. It was applied for week, at the expiration of which time he was well enough to leave the hospital.

The third case is interesting chiefly because the ice produced a haziness of the cornea after its use had been continued twelve days.

The patient, a man twenty-five years of age and of a rheumatic habit, was under the treatment of Dr. Deady.

The trouble started as a conjunctivitis in the left eye, but as iritic symptoms appeared after several days he was advised to come to the hospital, where he was put to bed and a cotton pad applied to the eye. Euphrasia was given internally and Atropine instilled locally. The disease proved stubborn and the remedies

used produced but temporary results. In two weeks the right eye became affected also, and during the succeeding fortnight, there occurred a succession of slight ameliorations followed by relapses. Ice was then applied and improvement rapidly commenced. It not only relieved the eye symptoms, but ameliorated the rheumatic symptoms he complained of in his hands.

The improvement continued for about twelve days, when the lower part of the left cornea became hazy and the ice was withdrawn. Calc. hypophos. removed the haziness in twenty-four hours, but the other symptoms all reappeared in full force. He is now recovering under Chin. ars.

ATRESIA OF THE EXTERNAL AUDITORY CANAL.

BY W. A. PHILLIPS, M.D., CLEVELAND, O.

Entire closure of the external auditory canal by polypoid tissue is an occurrence of rarity and of peculiar interest.

The only case of this kind coming under my observation was that of a girl about fourteen years of age. From early childhood she had suffered from suppurative otitis media of the right ear, induced by scarlatina. Two years previous to the atresia, I was called to treat the case and found that the drumhead had ulcerated entirely away, and that a small polypus had sprung up from the upper anterior part of the tympanic cavity; the mucous lining over the promontory had a red, angry appearance; still, the discharge came principally from the polypoid growth, as was shown by the fact that after its removal the secretion was slight, and was soon relieved. In a few weeks the growth reappeared and was again removed. This was several times repeated, notwithstanding the stump was carefully managed. The patient finally left the city for a few months, taking with her carbolized liquid vaseline for a dressing, as this preparation had heretofore controlled the discharge except when a polypus was present. On her return I found the ear discharging profusely, and upon cleansing the cavity three small polypi were found. The whole mucous surface so far as could be seen had a strawberry look. The growths were thoroughly dealt with, and the roots touched with nitric acid. The patient was given the following, to be used three times a day :

R Alcohol...	.....	℥ j
Glyc.....	.....	℥ j
Boracic acid.....	.....	gr. v

It was nearly a year thereafter when I next saw the case, and was informed that the discharge gradually ceased and for the last few months there had been none at all, but that the hearing was totally lost in that ear. Undoubtedly ; for inspection revealed, to my astonishment, the fact that the canal was entirely occluded by a solid polypoid mass, adherent to the walls all around, and covered over with a newly formed integument ! There was no discomfort or subjective noise in the ear. This mass of tissue extended so far outward that it could easily be seen without mirror or speculum, was slightly concave, and almost as white as the surrounding skin. The general health of the patient had been uniformly good.

Professor Politzer * relates a very similar case ; in the one that came under his observation, however, a slight facial paralysis resulted ; but in the instance above given there was only the deafness that caused the patient the least annoyance.

The formation of exuberant granulation tissue as the result of a suppurative process in the tympanum is of common occurrence enough to lead the aurist to be especially thoughtful to warn the patient of the possible danger of seriously impairing or entirely losing the hearing through the growth of these masses. It is by no means unusual that the tympanic cavity becomes filled with such tissue, extending to the vicinity of the rim occupied by the ulcerated tympanic membrane, and then solidifying sufficiently to greatly or entirely obstruct the vibrations of all ordinary sounds. So long as there is a persistent discharge, and particularly if there is the least noticeable tendency to the development of polypoid tissue, the patient should be impressed with the importance of submitting to occasional examinations. While internal remedies may be of service in these cases their action is certainly not prompt enough to justify the aurist in neglecting local measures. The R_x above given, if freely and persistently used, will almost

* Quoted in the *Am. Jour. Med. Science*, Number 217.

invariably put an end to the production of granulated tissue.

I do not as a rule approve of the use of escharotics to the stumps of polypi until after the alcohol treatment has been thoroughly employed without success. Of the internal remedies, I regard Silicia and Hepar sulph. as the most valuable.

A CASE OF CHRONIC PHARYNGITIS.

BY F. LINDLEY HOAG, M.D., GRAND RAPIDS, MICH.

August 17, 1890, Miss D., aged thirty, school teacher, consulted me for some throat trouble.

History.—When ten years of age had severe attack of diphtheria. Since then has been subject to frequent attacks of so-called diphtheritic sore throat. Would have from three to ten attacks, during the fall, winter, and spring months. For many years had old-school treatment, consisting largely of local application. For past two or three seasons had been under care of new-school physician, who has succeeded in lessening the number of attacks and greatly mollifying their severity. Timely use of Acon. and Bell. would often abort them.

Subjective symptoms : Complained of a constant raw, smarting aching in the pharynx, which was aggravated by use of voice, any bodily fatigue, or inhaling cold air. Very little cough or expectoration, excepting during acute attacks. No hoarseness, but voice gave out easily, especially at night.

About the 1st of last June, began to experience a constricted sensation in the throat, which gradually increased in severity till at times it would be so severe that it impeded respiration. It was constant, and its presence caused her to consult me.

Objective symptoms : On inspection, pharynx presented no marked appearance other than the usual signs of chronic inflammation, except that the veins seemed much enlarged and tortuous. Vocal organs normal. Vault of pharynx healthy.

As is my custom in all throat troubles, I examined the nose and found right inferior turbinated body slightly hypertrophied; projecting from the septum on each side was a shelf-like cartilaginous spur, slightly pressing against the inferior turbinated bodies

and completely separating the inferior respiratory tract. The septum was straight, but projecting from the fleshy part on the right side was a round, smooth prominence, not sufficient to make any disfigurement, but enough to act as a valve when inspiration was attempted, closing the left nostril. The patient could not inspire with mouth closed. She then volunteered the remark that she had never been able to breath with her mouth closed.

It was evident that this throat trouble all came from oral breathing, hence two things must be done: nasal respiration secured, and thickened tissue of pharynx absorbed.

With saw and knife I removed the spurs, trimmed them down smoothly and thoroughly. Cauterized right inferior turbinated body once thoroughly. This secured free nasal respiration in left nostril; but the valvular condition of right prevented any improvement on that side. I then made slightly upward curved incision from tip of nose to base; dissected up the skin, also the mucous membrane well up on to the septum; removed the underlying tissue; brought the edges together with five stitches, and when through, had perfectly straight septum and spacious anterior nares. I dusted with iodoform and packed both anterior nares. The wound healed by first intention, as I used thorough antiseptic measures, considering healing by first intention absolutely necessary to success. Patient could then take full, deep inspiration with mouth closed.

Locally to the throat I applied 60 gr. sol. of Argentinum nitrate every third day for two weeks, with no improvement, except slight amelioration of constricted feeling. I then applied iodine and glycerine for two weeks with about the same result.

I then, from the appearance of the veins, was led to think of ergot; so I applied

R Ergotin.....	gr. xviii
Tr. Iodine.....	3 i
Glycerine.....	3 i

night and morning.

After about a week improvement commenced, and continued until complete relief of all the symptoms ensued, except that excessive use of voice would tire the throat. During the time

from first visit to date she had no acute attack of diphtheritic sore throat.

Internally I gave Wyethia 1x. gtt. four, nights and mornings Merc. prot. 3x 10 A.M. and 3 P.M., from beginning to end.

I present this cure, not because it is unique, but, first, because I believe that to get good results in chronic pharyngitis we must procure nasal respiration; second, I had never seen ergotin recommended for local use and do not know as it produced benefit in this case. I am at present trying it in two cases that present similar appearance of pharynx, with no nasal complications, and will report result. Perhaps it has been used and reported, but I have not seen it. Should like to hear reports from it.

I also believe that the protracted use of Merc. prot. was beneficial in removing bad effect of previous diphtheritic attacks. To Wyethia I assign no credit.

GLIOMA OF THE RETINA, WITH A HISTORY OF THREE CASES IN ONE FAMILY.

BY J. F. BROWN, M.D., JACKSON, MICH.

During the infantile age, the retina is often the seat of a new formation, which was formerly described as fungus hæmatodes; by Virchow and his followers as glioma. It has its origin from the Greek, meaning glue. Virchow called this new formation glioma because it originated in the soft connective tissue of the retina, which is analogous to the neuroglia of the brain, and because it seemed to be identical with brain tumors described as gliomata. Virchow himself stated that it is very difficult to distinguish between glioma and sarcoma, and overcame the difficulty by calling some of these tumors glio-sarcomata. Most of the recent authors have adopted this name for the tumors under consideration. Delafield has recently called them sarcomata of the retina, being forced to do so by the result of a number of examinations of such retinal tumors, both in a fresh condition and after being hardened. I, too, am convinced that, if we want to call them gliomata, we cannot consider them anything else than sarcomata. Leber, too, seems to be of this opinion.

“All the different authors—Virchow, Knapp, Schweigger, Hirschberg, Delafield, Leber, etc.—agree in the description of the structure and elements of these new formations, and I can add nothing new to their observations.

“They consist of round cells, which are sometimes smaller, sometimes larger than white blood-cells, or in other cases identical with them. When hardened they have a

large round nucleus. Sometimes these cells have one or more offsets. It has been stated by some authors that they are identical with and derived from the nuclei of the granular layers; which, however, is not the case. Between these round cells we find free nuclei and sometimes very much larger round and even spindle cells. The tumors in which these spindle cells have been found have more especially been called glio-sarcomata. . . . From this description it seems evident that the so-called glioma of the retina in no way differs histologically from the medullary small-cell sarcomata. I therefore see no reason why we should not call these new formations by that name.”—*Alt.*

“Treatment furnishes no very satisfactory results. The indication surely exists for as early an extirpation as possible, and offers at least the hope of saving the life when the intra-ocular tumor is small and the optic nerve is not yet affected. If, however, the intra-ocular tumor be already far developed, and the disease have extended to the nerve, extirpation seems only to hasten the fatal result.”—*Schweigger.*

With these quotations as preliminary to my paper, I will now proceed to give the history of a family afflicted with gliomata that has come under my observation:

Mr. C., the father of the children, is forty years of age, complexion fair, health good, so far as I know. The age of the mother is forty-two, good health, fair complexion, light hair. Family histories good on both sides. No history of cancer, no history of tumors in any of the relatives on either side. Fourteen years ago the first child was afflicted. The left eye was involved. The difficulty was first noticed in January, the child at this time being ten months old. The parents took the child to a physician, who diagnosed the difficulty, I suppose, as he advised immediate enucleation. The gloomy prospect held out to the parents by this doctor caused them to consult Professor F., who said the case was not so bad as the other physician apprehended, and advised them to treat it otherwise and wait, which they did.

Five months after the left eye was known to have had trouble, the right eye showed signs of the same disease ; two months after that he was totally blind. By this time it was August. He lived till the following January, and died. Neither eye ruptured.

In June, 1888, another boy, three and a half years old, was seen to have trouble with his left eye. He was immediately brought to me. I diagnosed glioma of the retina, and advised enucleation of the eye. The next day the parents took the boy to Detroit, and consulted Dr. Eugene Smith, who confirmed my diagnosis and advised the same treatment. They returned to Jackson, and the next day after I enucleated the eye. The tumor did not fill the eye-ball, and, so far as I could tell by inspection, did not extend to the optic nerve. As after-treatment, I gave him two drachms of Carbolic acid, 2d, which was all the after-treatment he received, so far as I know, except the cauterization of a small granuloma in the line of the conjunctival cicatrix, some weeks after the operation ; with this exception, the recovery was complete, and since he has remained perfectly well, which is now nearly two years. The other eye must be all right, as the mother informed me a few days ago that he shot a sparrow with an air-gun loaded with one small shot. This boy, as well as the other, was always fretful, so the mother told me, but since the operation has not been so much so. This latter child has always had some catarrhal conjunctival or marginal trouble with the lids, which is no more than many other children have. This boy has worn an artificial eye for about fifteen months, which has not been removed over a half a dozen times in that length of time. The eye was procured and inserted without consulting me.

In May, 1889, another child, twenty-nine months old, was seen to have trouble with his left eye. This was also a boy. The parents waited and watched the progress of the disease till the July following, two months after they had noticed that he was having trouble with the eye, when they took him to a physician, who enucleated the eye to save the boy's life if possible. He remains well and free from any signs of return of the disease up to the present time, ten months after the removal of the eye. He wore an artificial eye from the last week in August till December, when it was removed, since when it has not been replaced, because of the difficulty of doing so resulting from his intractability. The orbit looks perfectly healthy. This boy had vomiting spells for

some time before the removal of the eye, which ceased after its removal.

Between the first boy that died of the disease, and the second one that developed it, three boys were born, that are all living and are healthy. Between the second and third children who had the disease, no child was born. Since the last one a pair of twins, a girl and a boy, were born, that are now five months old and are apparently healthy. The usual appearance that is seen in glioma of the eye was present in the eyes of these children, such as irritability, more or less evidence of pain, yellowish-white reflex from the eye, etc. In the one I treated I could readily demonstrate the presence of the tumor by concentrated light, ophthalmoscope, etc. In fact, the trouble was quite easily recognized without any elaborate examination.

I was told that the diseased eye of the last child was sent to some one in Ann Arbor, supposed to be an authority on such things, who pronounced the tumor malignant, or semi-malignant.

AMETROPIA AND OPERATIONS.

BY W. H. WINSLOW, M.D., PITTSBURGH, PA.

I stated in a previous paper that the eye was like a bag of water, subject to changes in shape from forces applied within and outside the eye. One can see by pressing the eyeball with the finger a change of shape in the pupil, iris, cornea, and sclerotic.

The pupil may be made oval in any direction by suitable pressure, and, with this, there is change of relationship of the structures inside the eye, so that the lens may be dislocated and other damages result.

In twenty years' practice, I have seen about a dozen patients with astigmatism, who by accident or experiment have learned to press the eyeball with the finger in such a way as to alter the shape, correct the astigmatism almost if not quite completely, and greatly improve both distant and near vision. We are apt to ascribe improvement of vision from squinting to diminishing the aperture of sight and cutting off peripheral rays, but, in my opinion, many squinters, by this action, also alter and make the shape of the eyeball nearer the normal.

Some of these astigmatic cases have the horizontal, some the vertical meridian ametropic ; most of them had hypermetropic astigmatism, but I remember some patients with myopic. Two of the former ametropes had the horizontal meridian flattened, and they pressed with the forefinger upon the outer hemisphere of the globe, outside, and even inside the external canthus, made the eye more convex in the horizontal meridian, and corrected their defects,

as well as I did by placing a convex cylinder, with axis vertical, before the eyes.

Others, with myopic astigmatism, contracted the aperture of the lids and pressed above or below directly upon the margin of the lids, but they did not get as good results as the others, because there was usually some simple myopia or some degree of degeneration of the fundus. I have watched a long time for cases of acquired astigmatism.

In progressive myopia it is not unusual to see astigmatism developed. Myopia is often caused by astigmatism, as well as *vice versa*. The ciliary muscle loses power in some segments faster than in others, and alters the shape of the eye. We know how often spasmodic astigmatism occurs and varies in its meridian during examination for glasses. The more the ciliary muscle has been weakened by degeneration and strains, the more irregular its function and the necessity of using a mydriatic to stop its tantrums. In fact, I think all myopic persons should be examined for glasses both without and with a mydriatic, because occasionally one will find, after paralysis of the accommodation, an undetected and unsuspected astigmatism.

I recall two patients with progressive myopia caused by omnivorous reading and strumous softness of the eye structures. Both had careful examinations without and with a mydriatic, and both had then simple myopia. Several years later, on account of increasing imperfection of vision, I examined again in the dual way and found:

CASE I. O. U.—8. D. sph. \ominus .75 D.^c ax. 180° V= $\frac{1}{7}\frac{5}{0}$

CASE II. R. E.—5. D. sph. \ominus .5 D.^c ax. 180° V= $\frac{1}{7}\frac{5}{0}$;

L. E.—4. D. sph. V= $\frac{1}{7}\frac{5}{0}$

It has not been my good fortune to see many cases of astigmatism from burns, ulcerations, and accidental wounds of the eyeball. In fact, I have never been able to find a glass that would improve vision, where traumatic astigmatism seemed present. I am of the opinion that such astigmatism is more amblyopic or imaginary than ametropic. I think our text-book articles upon the subject have been

composed from *a priori* instead of *a posteriori* reasoning. Ophthalmological literature is singularly deficient in reported cases. But I have seen some acquired astigmatism from surgical operations upon the cornea and the recti muscles, and it is for the purpose of calling attention to the danger of causing it by Stevens's snippings and more radical operations that I started this paper.

It stands to reason from what I have said about the elastic and mobile nature of the eyeball, that cutting into its capsule, and abscising a tense or shortened rectus muscle, must derange the harmony of forces and necessitate a readjustment, which will alter the shape and refractive meridians of the ocular globe. We have not paid enough attention to this aspect in operative cases, but it occurs, nevertheless, and the readjustment may take considerable time. Therefore, operated cases ought to be examined for refractive anomalies several times, *long after the first correction*, and so should other cases of marked ametropia which have been fitted with glasses. To dismiss this part, I believe I have *cured* quite a number of patients with conical cornea by most painstaking and repeated adjustment of glasses, and the use of Eserine and Atropia. Of these, I will write in the future, though I see in imagination the smiles of sapient critics at such a bold claim.

After cataract extraction, a few cases of astigmatism have been demonstrated. After strabismus operations, none, to my knowledge, that have not been present before the operation.

Now I affirm that *kind and degree of astigmatism are often altered by strabismus operations, and astigmatism is occasionally caused to appear where previously there was different ametropia or emmetropia.*

A patient of mine, aged forty-eight years, had exophoria of 6°, which could not be improved by usual treatment :

$$\text{R. E. V. } \frac{1}{2} \frac{5}{0} + .65 \text{D. sph.} = \frac{1}{1} \frac{5}{5}.$$

$$\text{L. E. V. } \frac{1}{2} \frac{5}{0} + .65 \text{D. sph.} = \frac{1}{1} \frac{5}{5}.$$

The external recti were cut and the refraction was examined in a month :

$$\text{R. E. V.} = \frac{1.5}{40} ; -.75 \text{ D}^{\circ} \text{ ax. } 120^{\circ} = \frac{1.5}{15}.$$

$$\text{L. E. V.} = \frac{1.5}{20} ; +.65 \text{ D. sph.} = \frac{1.5}{15}.$$

I expect the refraction to alter further, and shall examine after some months.

This is one of several cases showing the change after operation, and it illustrates the point. Remembering the bag of soft contents, the great strain one rectus may have upon the capsule, and the entire change after one rectus is separated from the sclerotic, a consequent and compensating bulge or flattening is a reasonable result. The alteration is undoubtedly in the cornea (and sclera), because lenticular astigmatism is not subject to change from external causes.

A CASE OF GLAUCOMA SIMPLEX.

BY E. W. BEEBE, M.D., MILWAUKEE.

The following case presents so many interesting features that I am constrained to report it :

An unmarried German girl, twenty-two years of age, of marked scrofulous habit, but of good general health, consulted the writer, July 24, 1889, for deafness accompanied by a discharge from the right ear, and also for an inflammation of the right eye, the ear affection taken precedence of that of the eye.

The patient had been under the treatment of a somewhat noted specialist of our city, and I therefore took more than usual interest in the case, and desired, if possible, to be instrumental in relieving her disabilities.

On inquiry I learned that she had been annoyed with occasional pain and a profuse discharge from the ear for a long time, and that deafness had been coming on gradually since the discharge first made its appearance.

From the history of the case I supposed it to be a chronic suppurative inflammation of the middle ear, and gave it no particular attention at that time. I noted the fact, however, that deafness was marked, and that there was a peculiar irregularly shaped foreign substance occupying the place of the drumhead, which was absent.

On turning my attention to the eye I elicited the fact that for a period of six months or more she had suffered pain at intervals, confined to the globe and supra-orbital region.

On examination I found what appeared to be a mild form of catarrhal conjunctivitis of the lids and globes. The ocular conjunctiva, however, did not have quite the usual appearance in such cases, the redness and congestion being less diffuse, and confined

mainly to certain portions of the globe. There were no other indications of trouble with the eyes except that they were myopic.

After arranging to take charge of the case, the patient was dismissed and an appointment made for a second visit, when I found, deeply imbedded in the ear, three grains of rice, which were removed with some little difficulty, giving great relief to the patient, who was unable to account for their presence. Under simple treatment the discharge soon ceased, and a fair amount of hearing was regained considering the loss of the drum membrane.

I now examined the eyes more carefully and found that the vision of the right eye was $\frac{1}{2}\frac{3}{0}$ and that of the left $\frac{1}{1}\frac{3}{5}$, and that each was improved by minus lenses.

The pain in the right eye was of several months' duration, and followed a severe cold. It was not constant, as several days of freedom from pain would frequently intervene, and then it would appear again without any seeming cause.

My diagnosis was catarrhal conjunctivitis, although it lacked some of the characteristics of that disease, as in the absence of more pronounced symptoms I was forced to consider it as such, thinking that possibly it was in some way connected with the disease of the ear. The result, however, proved that my diagnosis was incorrect.

The administration of carefully selected remedies, with the use of hot fomentations of various kinds, persistently applied, failed to give the desired relief. When cold applications were used instead they always aggravated the existing conditions. In fact, nothing I did seemed to benefit the patient except to ameliorate the symptoms temporarily; I reviewed the case again and again, and each time still remained in doubt as to the real nature of the affection.

Glaucoma was among the early possible conditions suggested, but each time it was brought to mind it was as quickly rejected, there being almost entire absence of the usual symptoms of such cases, the myopic refraction and the absence of increase of tension, of cupping of the disc, of anæsthesia of the cornea, of dilatation of the pupil, and of contraction of the visual field,—all precluded the possibility of the suffering being due to that affection.

Having settled the above question satisfactorily to my mind I

decided to paralyze the accommodation, to determine for a certainty if there was not an existing hypermetropia with spasm. Accordingly, on August 8, homatropine was used thoroughly and I found what I had before observed, that -8 lenses gave best vision for reading, and they were accordingly prescribed; these were of marked benefit to vision and were worn till the following March, a period of seven months.

No bad effects being observed from the employment of the mydriatic, I began the systematic use of a four per cent. solution of atropia, repeated several times daily; this was followed by Duboisia and later by Eserine. None of these were of benefit, nor did they seem to be injurious in the least, the left eye being frequently dilated from the atropia remaining on the handkerchief which had been used on the other eye. The frequent use of the galvanic current was added to the other treatment, and, like several other remedies, seemed to palliate the severity of the pain, but nothing more.

Vision of the right eye had gradually failed, and flashes of light, with rainbow colors, began to manifest themselves at intervals, with contraction of the field of vision. It was now evident that it was a case of glaucoma simplex from the first. Vision being limited to the counting of fingers at one foot, and the case otherwise assuming serious proportions, I determined to resort to operative measures to afford relief to the terrible suffering which was now only endurable by the aid of large doses of morphine. On March 22, I performed sclerotomy on the right eye, using cocaine as an anæsthetic. The operation, however, was attended by great pain, and was a failure so far as relief of the suffering was concerned, so that I decided to make an iridectomy as soon as the eye had sufficiently recovered from the operation. Accordingly on April 2 I made a broad iridectomy upward, using ether as an anæsthetic.

The relief from pain was quite marked, and I flattered myself that when the wound had healed my patient would be quite relieved. Not so, however, for as soon as the healing process had fairly set in, the pain returned, but with less severity; vision had also improved. Finding, now, that I was surely on the right track, I operated again, making a downward iridectomy April 24, and felt almost certain that her trouble would now be at an end, as the pain left her entirely for the first time in several months,

but we were doomed to disappointment again, for no sooner had the right eye been relieved than the disease began to manifest itself in the left, in the same manner, except that the pain was more severe if possible.

Profiting by the former experience I did not hesitate long, and on May 8 made an upward iridectomy, with a good deal of relief to my patient, but the second day afterward in attempting to go to the water-closet alone, she lost her footing and fell down a short flight of stairs, striking the disabled eye against the edge of a door, blinding it completely.

May 23, the eye being still blind, and the suffering intense, I made a downward iridectomy, under chloroform. The pain continuing after the wound had healed, and as vision had not improved, on July 19, I made a third operation at the outer canthus. The pain still remaining, but of a less degree, after the healing of the wound, I made a fourth iridectomy on August 27.

This effectually stopped the pain and in due time the sight returned, it being evident that the loss of vision was due to intra-ocular hæmorrhage.

After recovering from the last of the seven operations I found her refraction to be as follows: R. Eye, $+36^{\circ}$ ax. $105^{\circ}-48$ axis 15° . L. Eye, $+20^{\circ}$ axis 115° .

These lenses were worn with comfort and afforded a fair amount of vision until December 25, when she was operated on at the hospital for enlarged cervical glands. On recovering from this operation she found her spectacles no longer suited her; accordingly, on January 19 of the present year, I fitted her with lenses as follows:

R. Eye, $+20^{\circ}$ ax. $95^{\circ}-20$ axis 5° .

L. Eye, $+36^{\circ}$ $\bigcirc +48^{\circ}$ axis 115° .

With these her vision is as follows: R. E. V. $\frac{1}{30}$, L. E. V. $\frac{1}{20}$, or about as it was without lenses when I first saw the patient.

The most interesting feature of the case to the writer is the fact that tension was never found above the normal at any time, and the test was made almost daily from the first, each eye being compared with the other, and both with healthy eyes. Even while the patient was suffering intensely with the right eye, and the left one in an apparently healthy condition, I was not able to detect any

difference between them, neither were the pupils more than ordinarily dilated except from the mydriatics used.

Another interesting feature is the fact that the several operations caused a change in the refraction of the eyes from -8 to $+20$ and $+36$ lenses respectively.

It is evident that while iridectomy is a remedy for glaucoma, much pertaining to the etiology and pathology of that disease remains for future discovery. From this case alone I am impressed with what is probably a fact, that tension as applied to an eye is wholly a relative term, and applicable only to the case in hand—that what would be abnormal in one patient might be a physiological condition in another.

CHRONIC SUPPURATION OF THE MIDDLE EAR.

BY EMMA L. BOICE, M.D., O. ET A. CHIR., TOLEDO, O.

Hahnemann says, "In order to cure gently, quickly, unfailingly, and permanently, select for every case of disease a medicine capable of calling forth by itself an affection similar to that which it is intended to cure."

This is nowhere so clearly demonstrated as in chronic suppuration of the middle ear. A physician in private practice does not have the opportunity of experimentation that a dispensary physician has, but he has this advantage: his patients, being of the better class, he has not lack of sufficient nourishment, and proper hygienic surroundings with which to contend; and is therefore better able to judge of the effect of his medicines. The same prejudice, however, obtains in all classes against "stopping a running ear," in spite of all that has been said, even among physicians. I judge of this latter fact simply from the statements of patients. No greater mistake can be made than that of allowing a case of acute suppuration to become chronic, there being no reason why such a condition should exist if proper attention is paid to it.

A few years ago I always very carefully differentiated as to local treatment, using my Iodoform, Boracic acid, Tannic acid, Nitrate of Silver, etc., etc., according to the indications. In several cases where Iodoform was seemingly indicated, but rejected by patient on account of the odor, I used Boracic acid locally, combined with the internal medication, with good results. I reasoned that in all probability the internal

remedy was doing the work which was ascribed to the local treatment, so experimented on some of my cases.

I have in no case found that the internal treatment was curative without any local treatment, leaving the pus to keep up a constant irritation. And I have had cases recover with no internal treatment, these being of a mild character, and non-scrofulous.

The middle ear is an air cavity lined with mucous membrane, receiving its air supply through the eustachian tube, thus being warmed and moistened in its passage through the nasal organ. After an acute inflammation with perforation of drumhead, the mucous membrane being congested and irritable, is made still more so by the entrance of cold air through the perforation, and from the accumulating débris resulting from the inflammation. Therefore any means of keeping the cold air from the middle ear must materially assist in healing the case. I have found Wyeth's Boracic acid very useful in packing the external canal. This is an impalpable powder, and, while it excludes the external air, does not impede the passage of the discharging pus from the middle ear.

The following remedies I have found more frequently called for. I only give symptoms which have been verified:

Psorinum, 30 x.—Scrofulous, pale, sickly, pasty looking face. Patient seems listless and tired. After scarlet fever or measles, foul smelling pus. Scalp eruption sticky, foul; all discharges from body foul smelling. Pus thick, dirty-looking, adhering to sides of canal. Children seem stunted.

Tellurium, 30 x.—This remedy has never failed when the powerful fish brine odor was present.

Arsenicum.—Patient restless. Pus thin, excoriating, burning, itching, causing constant picking at the red inflamed auricle. Scaly dandruff on head.

Graphites.—Discharge thick, pasty. Eruption behind ears—moist and easily bleeding when scab is detached. May have an eruption of same character elsewhere on body. Crack in external canthus.

Sulphur, 30, is indicated where the disease has been checked again and again, but returns.

Pulsatilla has the bland, mild, odorless pus; patient timid, fearful. Foul breath with eructations.

These I have used most frequently. In syringing the ear I use *Eucalyptus globulus* fluid extract in the warm water, carefully drying the ear before using the powdered Boracic acid.

A CASE OF REGULAR CORNEAL ASTIGMATISM DUE TO A WOUND OF THE SCLEROTIC.

F. G. RITCHIE, M. D., WILMINGTON, DEL.

I have been led to report this case, not so much because it contains anything new in either symptomatology or therapeutics, but because it may be of benefit in awakening some one to possibilities respecting the acuteness of vision in this class of cases, to which they are at present strangers; not because they do not know how to arrive at the result, but simply for the reason that they do not put the proper interpretation on the facts, but assign the loss of vision to causes other than that of an alteration in the curvature of the cornea due to cicatricial contraction of the wound. This is not to be wondered at, inasmuch as the busy practitioner, pressed for time, would be very apt to refer the loss of vision to the pathological changes which had taken place in the interior of the eye, especially if such loss was slight compared with the degree and extent of the inflammation following the lesion.

D. R., male, age seventeen years, was brought to me September 1, 1889, by his father, who made the following statement: The boy had gone down into the cellar after a bottle of catsup, and upon handling a bottle, which he says was empty, it exploded, and a piece of it struck him in the left eye, perforating the ball. On examination, I found a triangular wound in the sclerotic, at the inferior and external quadrant, about three millimeters from the corneo-scleral junction, and about five millimeters in extent, the apex pointing downward and outward. There was also a slight wound of the margin of the lower lid, which, owing to its

position and direction, must have been made simultaneously with the wound of the sclera. Upon ophthalmoscopic examination I could see the wound in the choroid, and the vitreous appeared as if "drawn" in the direction of the wound. There was but slight hæmorrhage about the wound, but no trace of a foreign body. A pressure bandage was applied and I directed that the eye be dressed with cold compresses.

September 2.—As there was a tendency of the wound to gape, owing to its triangular shape, I put a suture of oooooo silk¹ in the sclera, washed the eye out with a solution of boracic acid, applied a pressure bandage, and ordered him to stay in bed, prescribing Aconite 2x internally.

September 3.—No change. *Rx* same.

September 4.—Experienced slight transient pain in the left brow.

September 5.—Eye pained considerably during the night and up to 3 P.M., at which time I was notified, and ordered heat applied to the eye, and gave them some Cepa, directing them to give him five drops every half hour until I arrived. I saw him at 6 P.M., when he described the pain as starting from the inner angle of the orbit and extending over the brow. *Rx* Merc. corr. 3x. Atropine (four per cent. solution) pushed until the pupil was thoroughly dilated, and then instilled every four hours.

September 6.—Pain continued until 12 P.M., when he fell asleep, awakening at 4 P.M. with slight pain, but which soon passed off. The ocular and palpebral conjunctiva was congested. As there was a muco-purulent "stringy" discharge from the wound, I removed the suture, touched the wound with the mitigated nitrate of silver pencil, and directed that five drops of a 1-8000 solution of bichloride of mercury be instilled into the eye every half hour. The Merc. corr. 3x was continued internally, and a cotton batting cap to protect the head and eyes was ordered.

September 7.—Has rested comfortably, and experienced but little pain. Vitreous hazy, cannot see fundus. *Rx* do.

September 9.—Slept well Saturday night, and was free from pain during Sunday. He felt a little pain during the fore part of the night, but this had passed away by midnight. Occasional pains to-day. *Rx* do.

September 11.—Occasional pains. Discontinued bichloride solution. \mathcal{R} do.

September 14.—Vitreous clearing. Discover a couple of posterior synechia. \mathcal{R} Atropine instilled every two hours. Same medicine continued internally.

September 17.—Vitreous still clearer. Has had but one or two attacks of pain, which were controlled by Cepa. As he complained of dryness of the throat Atropine was used but once every three hours. He has complained of pain once or twice over the right eye. On using the ophthalmoscope, I find a filamentous opacity in the vitreous lying over the outer half of the disk. Vitreous fluid. \mathcal{R} do.

September 21.—Much better. Synechia torn, and pupil regular. Has had but two attacks of pain since the 17th inst. Atropine every four hours.

September 26.—Injection of the episcleral and conjunctival tissues has about disappeared with the exception of a few fine vessels. No pain since the 21st inst. \mathcal{R} Atropine twice daily.

I saw him once between the last date and the 8th of October, and on the latter date I took his acuteness of vision of each eye, and also the refraction of the right, with the following results :

O. D. $\frac{1}{15}$? +.50 D. \bigcirc +.25 D. cyl., axis 75° V. = $\frac{1}{15}$ l. c.

O. S. $\frac{1}{40}$?

Jan. 14, '90.—O. D. $\frac{1}{15}$? +.50 D. \bigcirc +.25 D. cyl., axis 75° V. = $\frac{1}{15}$ l. c.

O. S. $\frac{1}{40}$ +.25 D. \bigcirc +1.25 D. cyl., axis 60° V. = $\frac{1}{30}$.

Jan. 25.—O. S. $\frac{1}{40}$? +1.25 D. cyl., axis 60° V. = $\frac{1}{20}$? some of 15 ft.

Feb. 10.—O. D. $\frac{1}{15}$? +.25 D. \bigcirc +.25 D. cyl., axis 75° V. = $\frac{1}{15}$ l. c.

O. S. $\frac{1}{40}$? +1.25 D. cyl., axis 60° V. = $\frac{1}{20}$? some of 15 ft.

THE ROD-TEST.

BY JAS. A. CAMPBELL, M.D., ST. LOUIS.

The brief remarks of Dr. Angel in the October number of this journal, commending the Rod-test for determining heterophoria, are so nearly in a line with my own views and experience, that I am induced to offer a few words in addition, by way of evidence, in confirmation of its great value.

I have been using the Rod-test as first proposed by Dr. Maddox for some months, and am more and more pleased with the ease and the unvarying and conclusive accuracy with which it is applied. In my hands the ordinary prism or phorometric test has in many instances been uncertain, and at times contradictory ; so much so that it was occasionally a question of doubt as to which day's record should be accepted as the true condition.

I find that the general physical condition of the patient, varying from day to day, and influenced by widely different causes, has a marked effect upon the results of the prism test ; for instance, I have seen a variation of from 4° to 6° between two prism tests taken forty-eight hours apart, and even several degrees change at the same sitting, all clearly depending upon evident causes. Although the same conditions may be present, they do not seem to affect the results of the Rod-tests so much, for, according to my observations, the results by the Rod-tests are quite uniform and unvarying. The explanation of this probably lies in the fact that in the ordinary prism test voluntary mental effort, and consequent over-muscular exercise, is always a part of, and must necessarily influence, its results in a marked degree ;

while in the Rod-test the latent deviations of the eyes are indicated with apparently little or no voluntary effort on the part of the patient to correct the same. Thus this varying condition of uncertainty is eliminated.

Following the suggestions of Dr. Maddox, a very convenient graduated scale may be used in connection with the Rod-test, with which the existence and degree of heterophoria may be quickly determined and read off without the use of a prism if desired, although it is wise to confirm the reading by a trial. Through the center of a card-board of sufficient size a heavy horizontal line is drawn. Let this be bisected by a perpendicular cross line. Where the two lines meet is the zero point. It is at this point that the gas jet is placed, either in front of it or immediately behind a small oval slit in the card, embracing the zero point. Upon these two cross lines lateral and vertical deviations are measured by a graduated scale either in degrees or meter-angles determined by actual experiment for some definite distance. For instance, the card I use for distance is graduated to be used at six meters; and I find by repeated trials that the degree of deflection in any given case is quite constant and the amount of the heterophoria revealed usually the same.

I may add that a simple and inexpensive rod and disk may be constructed by fastening a small, perfect, cylindrical glass rod in the opening of the large-sized stenopæic disk which usually accompanies the ordinary test-case of glasses. A slit 4 mm. wide, filled by a rod of 5 mm. diameter, the rod being a little shorter than the diameter of the disk, fills every requirement, and enables it to be used in the ordinary test-glass frame; and thus the degree of oblique, as well as horizontal and vertical, inclination may be indicated and read off from the graduated card properly lined and numbered. The value of this in determining degrees of pareses and paralyzes of special muscles must be self-evident.

Since becoming familiar with the use of the Rod-test, I have less and less use for the phorometer; in fact, of late, seldom resort to it.

CLINICAL CASES.

BY B. B. VIETS, M.D., CLEVELAND, O.

CASE I.—*Sympathetic Ophthalmia 61 years after injury.*—Mrs. E., age sixty-five years, when a child three years old had a collision with a pugnacious old rooster. When the child had been recovered from the wreck it was found that the eyeball had been penetrated—presumably by the rooster's spur. It was sore a long time but finally healed and for forty years vision of this eye was fair. About twenty years ago the injured eye would become suddenly inflamed and painful, lasting from a few days to weeks. These attacks occurred irregularly for a year, when sight was entirely lost not even the perception of light remaining.

For nineteen years the eye looked red and angry but not very painful. Last October, without premonition she began having "blind spells" with frequent shooting pains through the well eye. In a few days the frequency of these attacks of blindness increased, the pain becoming almost unbearable and the vision very poor. She was brought to Cleveland, when I immediately enucleated the stump of the eyeball injured sixty-one years before. Sight of the remaining eye immediately returned and every bad symptom at once disappeared. In three weeks she returned to her home wearing an artificial eye.

CASE II.—*Eighteen Operations upon an Eye.*—Miss M., age twenty years, three years ago had what her physician diagnosed as "pink eye." For five weeks the eyes were treated with cold tea leaves, when the vision became so much impaired she could with difficulty see to get about the house. A physician of Cleveland was consulted who said the "sight had grown to the eyeball." Daily for nearly a year he used drops in the eye, but no improvement in sight resulted. Upon examination I found vision of left eye,

equaled perception of light only, right eye could discern large objects. The "pink eye" had been evidently a severe attack of plastic iritis. The pupils were almost entirely occluded with organized lymph, irides firmly adhered to lens capsules, anterior chambers almost obliterated. I made an artificial pupil in the left eye. In seventy-two hours after operation vision equaled $\frac{15}{40}$, enabling her to assist in household duties. In two weeks I made the same operation upon the right eye but no improvement in sight resulted. In two weeks again I made the second operation, enlarging the opening made in the iris, followed in a few weeks by the third operation, removing still more of the iris. No improvement of vision was attained owing to the cataractous condition of the lens and the pigment spots left upon the lens capsule where the iris was torn from its attachments.

Deeming it impossible to remove the lens on account of the adhering iris, I determined to produce absorption of the lens if possible by repeated discisions. In the past two years I have made the operation fifteen times at intervals of from four to ten weeks, making eighteen operations in all upon this eye. Sight has gradually improved since the first needling. The lens is almost entirely absorbed. Vision is not very good yet owing to the opaque capsule, equaling $\frac{4}{200}$. But the prognosis is favorable for reading sight after perhaps a few more needling operations, and making an opening through the capsule.

CASE III.—Miss S., nineteen years old, came to me for treatment of her throat and nasal catarrh. For several years she had been obliged to use a dozen or more handkerchiefs a day. The voice had a nasal twang, patient was nervous, reduced in flesh, and subject to melancholy despondent moods. Throat had a full, uncomfortable feeling all the time; nasal respiration possible only at times. Examination revealed both nostrils almost entirely occluded by polypi. These were removed with snare.

Patient went home with instructions to call next day. When she returned, both nostrils were found closed with similar appearing polypi. An hour was spent in the attempt to get the wire of the snare around the mass without success. The following day another unsuccessful effort was made to use the snare. An attempt to use forceps was followed by such copious bleeding that I had to desist. At another sitting the second day, after contracting the tissues as much as possible with a ten per cent.

solution of Cocaine, I could introduce the blades of a strong pair of nasal scissors one on either side of what seemed to be the pedicle of a polypus. Upon cutting I found it was bony, though easily divided with scissors. Hæmorrhage was profuse. Finding I could not now remove the growths with forceps, operations were postponed for a couple of days. The next time the scissors were introduced same as before, only passed back about an inch. They were then closed again, crushing through bony substance. This entirely severed the mass from its attachment, when it was easily removed, though the hæmorrhage was most alarming. What seemed to be the second polypus, farther back, was the anterior border of an abnormally elongated superior turbinated body. This turbinate extended from the roof and rested upon the floor of the cavity. It was about an inch in length from before backward. Its anterior end or border presented exactly the same appearance in color and shape as the mucous polypus I removed with the snare ; the same condition existed upon the other side.

Removal of the polypi and these enlarged bodies permitted free nasal respiration and every symptom of nasal and pharyngeal catarrh disappeared. The general condition improved rapidly.

STUDIES OF THE OCULAR MUSCLES.

BY HAYES C. FRENCH, M.D., SAN FRANCISCO, CAL.

Since, through the kindly guidance of Stevens, the ophthalmological mind has been brought to a systematic and philosophical study of the ocular muscles, we all know something of the fascination of these researches, and not a few of us have experienced their intrusion upon our sleeping hours, and it is to relate a few impressions from practical experience in this line of thought that we write at this time. In the study of heterophoria we are often less perplexed by the amount of muscular deviation than by the peculiar quality of the "wrong turning." Without wishing to add to the already cumbersome technology of this class of troubles, in practice we have found it necessary to adopt some verbal expression of the variance between the widely different conditions of heterophoria, in one of which the faulty muscle, under the stimulus of the training prism, accomplishes its task with a kind of snap, and in this condition it will be found less liable to hold the ground gained; and we have classed this as clonic muscular action in contradistinction to those cases of tonic muscular action in which the separated images are brought firmly and steadily into more permanent union. As a rule we have found the pathological expression of the clonic condition to be, a running together of words or letters, with great nervous excitability. In these cases the muscular power will often be found widely variable from day to day, and the condition is accompanied by various remote nervous reflexes. The restoration of such cases under prism practice alone, we have

usually found a slow and unsatisfactory process, but when combined with a judicious use of galvanism, better results have often been attained, and in this class of muscular troubles our homœopathic therapeutics will be found especially at home.

In studying these problems of muscular inco-ordination we are apt to meet with some singular optical paradoxes, and we have sometimes been led to believe that the same degree of muscular deviation is more difficult to correct in cases where the aggregate power of all the muscles is excessive, than when it is less; and this is the class of cases in which we have oftenest found the graded tenotomies imperative.

For example, Mrs. B., æt forty-two, with hyperopia of 0.50 D. and hyperopic astigmatism of the same degree in the vertical meridian of each eye, with exophoria of 4° at twenty feet. She presented and maintained from the first an abduction of from 13° to 16° , and soon developed an adduction of 65° , after which there was an apparent esophoria of 2° or 3° , which soon, however, lapsed into orthophoria, and from that returned to nearly the old degree of exophoria at the same sitting. After three weeks of assiduous training she developed an adduction of 75° , but at each succeeding visit came up smiling with the undiminished 4° of exophoria. After about six weeks' training, having reached an adduction of 84° at twenty feet, she still shows exophoria of 3° at distance, and about the same in accommodation. She came to me with prisms of 2° base in, which seemed to give temporary relief, and her case illustrated Dr. Geo. Norton's admirable rule, striking at the folly of giving too strong plus glasses in exophoria. We do not expect to cure this case without a tenotomy.

I have a somewhat similar case in a clergyman who has been the rounds, and is nearly in despair. He also wears, with trifling, but varying degrees of relief, 2° prisms, base in, and has trained his ocular muscles with his own prism outfit till he can almost see round a corner, and the tears of sad failure are said, from the ocular contortions resulting from these practices, to run in torrents down his spinal column; yet he is unhappy in all effort at near vision. There is apparent orthophoria at twenty feet, and but slight exophoria in accommodation; sometimes none. His pupillary distance is abnormally large, and our theory is, that a

trifling matter of 80° of adduction in his case is less than 50° or even 40° in subjects in whom the optic axes converge at a much smaller angle ; and in this case we can see no hope of permanent help, short of graded tenotomy of the external recti.

In cases where absolute emmetropia and orthophoria are found by every test, and yet headaches and the long train of discomforts that are plainly the children of heterophoria, are running riot through the sensitive organism of his patient, is an enthusiastic disciple of the new gospel of muscular depravity to dismiss the case in despair? and if not, then what? In these cases we are left to the apparently faint hope of finding the *causus morbi* in a careful study of the relative strength of the adducting and abducting members, and any want of harmony in this respect will often prove our first, and sometimes only intimation of the correct line of remedial action. Then the question whether the greater discomfort is experienced from use of the eyes at the far or near point, will almost determine whether the external or internal muscles are at fault, and acting upon this knowledge alone, we shall often reach most satisfactory results.

PROBING THE LACHRYMAL CANAL.

BY HORACE F. IVINS, M.D., PHILADELPHIA.

Dr. H. C. French's article in the JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY, January, 1891, recalls to mind a number of interesting cases treated after this non-cutting method, the merits of which I first tested in 1886. This dilating process of Drs. A. C. Peterson and H. C. French was carried out, minus their bichromate of potash injections. (See Transactions of the American Homœopathic Ophthalmological, Otological and Laryngological Society, 1884-85, p. 39.)

My results were very gratifying and soon convinced me that it was superior to the older methods of Bowman and Stilling. On the other hand, it must not be understood to supplant these operations in certain cases, nor to cure every case despite a marked malposition of the punctum, nasal obstructions, abnormal lachrymation, etc. In emphasizing its usefulness I can only say that I now rarely slit the canaliculus, but am not infrequently obliged to nick the punctum to allow the introduction of a very fine probe. I find the treatment easier and the results better where the upper canal is treated. I have rarely found it necessary to use a probe larger than No. 4 Bowman, as stated by the late Dr. Norton in his note to Dr. French's article; whereas after opening the canaliculus failure has sometimes followed the use of a No. 10 probe, a good position of the opened canal, and a practically normal appearance of the nasal fossæ.

One case will suffice to illustrate the favorable results obtained by this as contrasted with the cutting method.

Mrs. D., æt. fifty-four, consulted me April 21, 1890. She complained much of pain in the left eye, which was "almost constantly filled with tears." The conjunctiva was congested and the punctal openings minute; even the smallest probe could not be passed the whole length of the duct. I therefore decided to gradually dilate the lower passage, which was accomplished in two sittings. The canal was then opened with a Bowman knife, and after a few visits a No. 8 probe was passed. Improvement was not appreciable and the patient was advised to do nothing further until after her summer vacation.

Upon her return the stillicidium and irritation were as bad as ever. At that time I succeeded in passing a very fine probe through the upper canal, and in a few visits had the pleasure of seeing a No. 5 Bowman pass and the annoying symptoms practically *nil*.

Mrs. D.'s last visit was on the 5th of February, 1891, at which time she was, to all appearances, well, and said she would report in March if annoyed. She has not yet presented herself (March 11), so that it is probable the old symptoms have not returned.

This case, selected from a number that resulted favorably, illustrates both methods of treatment, and seems to me to demonstrate in a striking manner the frequent superiority of the treatment so enthusiastically championed by Drs. French and Peterson.

ON CORNEAL FEEDING BY ENDOSMOSIS.

BY L. B. COUCH, M.D., NYACK, N. Y.

On the 17th of July, 1890, I was summoned in haste to Blauvelt, four miles away, to attend Mrs. X., a large, stout woman of forty, in her first confinement.

Though the lady had married twice, this was her first conception, the previous alliance proving not only unfruitful, but very unfortunate, terminating finally in a divorce upon the usual statutory grounds.

This little bit of inside history, given me by the nurse, led me to warn her to be especially careful and painstaking in cleansing the eyes of the tardy little stranger. Subsequent developments, however, showed that this important procedure of successful obstetrical practice had been carelessly ignored.

In two days the left eye became severely inflamed, and again I conferred with the nurse, warning her of the contagious and dangerous character of the disease.

I directed that the eyes be cleansed every half hour, each time with absorbent cotton and water, after which the eye was to be flushed with a solution of Hydrarg. bichloride, 1-8000, and the child laid always upon the left side. In spite of these directions the child's right eye became affected, as well as the left eye of the nurse, who thereupon resigned her position, went home, and consulted a convenient physician to attend her. The physician refused the case and directed her to go to the New York Eye and Ear Infirmary.

After much valuable time had been lost by indecision, she presented herself at my office one morning for treatment. The pain and inflammation at this time were very severe and aggravated at night, the iris being involved.

I ordered cold compresses constantly, and the eye carefully cleansed every half hour. Atropine grs. iv, Aqua $\bar{3}$ j, was hourly instilled into the eye till the pupil was dilated. The inflammation,

however, had attained such a degree of intensity for lack of care and treatment that nothing seemed to stay even temporarily the onward course of the disease.

Other factors militating against success were the previous ill-health of the patient from chronic nephritis and an impoverished condition of the system generally.

These facts, together with the long continued pressure upon the peripheral source of corneal nutrition, impaired greatly the vitality of the cornea, which grew more and more hazy.

An irregular central portion of the cornea, $\frac{1}{4} \times \frac{3}{8}$ inch in diameter, became yellow, infiltrated, and densely opaque. Extensive serpiginous ulceration now appeared, which occasioned, no doubt, a serious loss of vital corneal nutritive material. The cornea became wrinkled, diminished in size, and the eye appeared greatly shrunken. It certainly was an extremely dangerous and apparently a hopeless case, for unless new elements of nutrition were speedily obtained; a sloughing of the cornea and evacuation of the contents of the eyeball were inevitable.

A brilliant idea here struck me. Why not rely on direct corneal feeding by endosmosis? I immediately put the idea into execution.

Obtaining plenty of juicy round steak, I applied the expressed juices therefrom almost constantly to the wrinkled, shrunken cornea. For the first twenty-four hours I more than held my own. The second day there were plain evidences of improvement. The third day was better than the second, and from this time on there was a constant daily improvement, easily perceived by all. The cornea gradually lost its haziness and the dense central infiltration slowly melted away and disappeared, the ulcerations healed without a scar, and to-day the eye is as clear and bright as its fellow. It took several weeks, however, before the corneal epithelium was wholly reproduced.

The growth was from below upward, its clear, sharply defined border upon the tissues beneath being readily detected.

A thought here suggests itself: In bad, deep, destructive ulcerations of the cornea threatening perforation, when lack of nutrition plays an important part, why not feed the cornea direct, as in the foregoing case? At some future time I shall take pleasure in continuing the experiments.

THE USE OF THE COMPRESS-SPONGE IN OPHTHALMIC SURGERY.

BY H. H. CRIPPEN, M.D.

Since, for antiseptic reasons, the majority of ophthalmic surgeons renounced the use of sponges, there has always been some inconvenience, especially in bloody operations, in finding a substitute that will serve equally well in keeping the operative field free from sanguineous oozing. To be sure, there are some who still use sponges in plastic operations about the orbit, and in operations such as *exenteratio orbitæ*, where there is profuse bleeding, and these oculists are among the number who believe that rigid antisepticism in the care of their sponges will set aside any danger of infection. But, even with the strictest antiseptic care of a sponge, it is always likely to retain a certain amount of fibrinous material in its central meshes, that may at any time become a source of infection. I believe, then, that sponges should never be admitted to the operating room under any consideration. As for the squares of linen and the absorbent cotton, that we use so much to-day in the place of sponges, the former has not sufficient absorbent power, and the latter is always a nuisance, when wet, by sticking to one's fingers. As a substitute, then, for all of these, I propose the use of antiseptic compress-sponges.

This substitute has lately been introduced into Billroth's abdominal clinic, at Vienna, and has been found to fill every purpose to which the sponge is adapted. I believe, however, that I am the first to modify the compress-sponge by giv-

ing it a form that is suitable to the needs of ophthalmic surgery.

The compress-sponge, for use in ophthalmic surgery, is prepared as follows: Half a yard of gauze is folded upon itself to form a piece three inches wide, containing twelve thicknesses of cloth. This forms a long strip, the width of the gauze, which may be cut into pieces three inches square. It is now only necessary to tack down the loose ends on three sides with a running stitch, the fourth side being secured by the last fold of the gauze. These compresses are boiled in a carbolic solution, 50-1000, or in a sublimate, 1-1000. Finally they are preserved in a fresh solution of corrosive sublimate or in a saturated solution of boracic acid.

At the moment of using, these compresses are rinsed out in water that has been sterilized by boiling and filtering. After being squeezed out they constitute a very powerful absorbing agent and can be given any form or dimension or wrapped around the end of the finger for penetration into the cavity of the orbit. By rinsing out, the same compress-sponge can serve at need several times during an operation, except in cases where they have been used for the absorption of infectious material. After each operation they may be destroyed, as their cost is insignificant compared with that of sponges. A practical test of their absorbent power in cases of severe hæmorrhage is very convincing as to their usefulness.

If it is difficult to obtain the prepared gauze (sublimated, borated, or iodoformed) from the instrument maker, ordinary gauze will answer the same purpose by giving particular attention to its antisepticism. The ordinary gauze should first be boiled in a solution of sodium carbonate, 20-1000, to remove the materials used in its manufacture. It may then be made into compress-sponges as directed. The final preservation in corrosive sublimate, 1-1000, or in a saturated solution of boracic acid is preferable to that in a carbolic solution, as the latter loses its efficacy quickly, and is also a little irritating.

OPHTHALMOLOGICAL NOTES.

BY H. H. CRIPPEN, M.D.

We only rarely have occasion to study the effect of the Bisulphide of carbon on the eye, but the few cases that have been reported are sufficient to allow the construction of a pathogenesis very closely resembling in its symptoms the phenomena presented by a retrobulbar neuritis. Dr. Gallemaerts (*Annales d'oculistic*) relates a very clearly cut observation of this kind. The patient was a worker in caoutchouc, and was charged with the duty of soaking the rubber in the Bisulphide of carbon. Previous to the symptoms to be related he was always in good health. After eight months' service in his present occupation he had a slight attack of poisoning, from which he recovered in eight days and resumed work. Four months later a second attack occurred, with the following symptoms:

The subject is a marked lymphatic temperament; he has red hair; his parents, as well as his two brothers and his sister, are healthy; not one of them has ever suffered from visual disturbances. The patient finds great difficulty in walking; the left leg is more affected than the right; great weakening of the muscular forces of the limbs is found; the patellar reflexes are preserved and normal. These disturbances began in the upper limbs; at same time the patient felt cramps in the calves, in the arms, and in the abdomen. Two months after the beginning of these symptoms other disturbances followed; the subject found a considerable diminution of the hearing and of the visual acuity; at the same time he had frequent headaches. A mist came before the eyes; the vision is better in the evening.

Examination shows a slight insensibility of the conjunctiva to

touch. The visual acuity is greatly reduced ; the patient only counts fingers at 45 centimeters on both sides ; with the chromatophotometer of Chibret, he does not differentiate colors at the maximum of the rotation of the scale of saturation. With the ophthalmoscope there is found no special lesion of the papilla or of the macula ; the fundus is absolutely normal. The visual field for colors shows the existence of a central scotoma in both eyes and a slight narrowing of the eccentric field more to the left.

There can be scarcely any doubt on the nature of the affection from which this patient suffers ; the Bisulphide of carbon alone can be accused of all the symptoms enumerated, as the patient does not use alcohol or tobacco. On the other hand, hereditary retrobulbar neuritis is not to be thought of, for the other members of the family present no similar trouble.

Under the influence of injections of strychnine (two milligrammes per day) the vision returned, at the date of Dr. Gallemaerts's report, $\frac{2}{20}$ for the right eye and $\frac{1}{4}$ for the left.

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In comparing this case with others that have been published, we find that all reports on the effect of the Bisulphide of carbon on the vision, are characterized by the existence of a central scotoma, with the exception of the one related by Hirschberg. This author describes an alteration of the macula lutea, characterized by the presence of whitish nodules, reflecting the light.

In Galezowski's case there also existed a slight anæsthesia of the conjunctiva, and the amblyopia likewise occurred in the second period of the disease.

In Lavigerie's case the visual field for green and red was contracted. In that of Dumont alone the color sense remained intact. In the cases related by Nettleship, Hirschberg, Fuchs, Gunn, F. Becker, Nuel, and Leplat, the central vision for colors was equally altered. The general nervous symptoms noted by Gallemaerts have also been observed by Nettleship, Fuchs, Hirschberg, and Dumont.

With regard to curability, observations appear to show

that perfect vision finally returns in most cases, although in the facts cited by Gunn and Dumont the affection was incurable. The principal condition necessary to a cure seems to be the removal of the patient from the effects of the poisonous vapor.

With regard to morbid predisposition, the cases related by Nuel and Leplat and by Gallemaerts, in young men never having used tobacco or alcohol, are opposed to the observations of F. Becker, who believes that the abuse of these substances and advanced age are necessary conditions for the evolution of the effect of inhalation of the Bisulphide of carbon.

BOOK REVIEWS.

UTERUS UND AUGEN von Dr. SALO COHN. Wiesbaden : J. F. Bergman, 1890.

From the eye to the uterus is quite a diversion, but, in consideration of the numerous cases of ocular troubles that arise in close connection with some pathological condition of the female genital organs, we expect to find Dr. Cohn's book a very useful reference work. The author presents a careful analysis of the literature on this subject by following a very commendable arrangement. To this he adds a great amount of original work and observations.

We may perhaps learn something by following his arrangement of this subject. With normal menstruation we will of course expect to find few ocular troubles, but Cohn has been able to collect quite a number of observations varying from periodical monthly eczematous eruptions on the eyelids to herpes corneæ. But even such a serious condition as an intense papillitis has been seen with a normal menstruation (Leber).

With anomalies of menstruation we would of course expect to find a great amount of ocular disturbance. In a general manner, Cohn states, that in dysmenorrhœa there is a contraction of the field of vision. This symptom usually accompanies a diminution of the loss of blood.

Each of the different varieties of dysmenorrhœa seem to cause particular ocular disturbances. Confirmed dysmenorrhœa particularly predisposes to subacute irido-choroiditis with glaucoma-

tous attacks. When the dysmenorrhœa depends upon a special general condition there arise ocular symptoms in relation with the diathesis. Thus scrofulosis will produce a phlyctenular ophthalmia conjointly with dysmenorrhœa. If there be anæmia or chlorosis, the ocular disturbance frequently assumes the form of muscular asthenopia, or of chromhidrosis, characterized by an exudation from the lid of a bluish tinge. The latter, we would expect to find in hysterical subjects, although Cohn does not mention this condition as predisposing.

In dysmenorrhœa caused by a genital lesion, such as a uterine displacement, for example, we find those troubles, often so vexing to the oculist, that arise, pass away, and return, succeeding each other with some regularity. Among these disturbances we recognize many that are obstinate to treatment: amblyopia, hyperæthesia and anæsthesia of the retina, or a variety of asthenopia.

With amenorrhœa, which denotes a deep alteration of the organism, we will expect to see all those ocular troubles which may arise from a profound alteration of the general nutrition. Mooren has noted a coincident interstitial keratitis and an atrophic choroïditis that were relieved as much by emmenagogues as by special medication. Sudden suppression of the menses is apt to be followed by a compensating deviation toward the eyes and, as a consequence, by hæmorrhagias into the fundus, and even into the anterior chamber, or by neuro-retinitis and retrobulbar neuritis.

With regard to ocular accidents occurring during pregnancy or during the puerperal state, we are all quite familiar with albuminuric retinitis and with embolism of the retinal arteries. But among the reflex nervous phenomena met during pregnancy, hemeralopia deserves special mention. This symptom generally occurs a fortnight before delivery, and is prolonged for the same length of time post-partum. The cause of this affection is not fixed by Cohn. Parimand and Kuschbert have attributed it to a default in the production of the retinal purple. But the macula, which does not contain a trace of purple, is attacked as well as the rest of the retinal surface.

Uterine hæmorrhages, profuse menstruation, metrorrhagia, and post-partum hæmorrhage are all considered in the last chapter. These may lead to retinal anæmia, to neuro-retinitis with retinal hæmorrhages, or to a hydropsy of the sheath of the optic nerve,

with a compression that may be followed by more or less complete atrophy.

The only fault to be found with the arrangement of Dr. Cohn's work is the necessity of considering hysterical amblyopia under several headings, and a consequent confusion from this separation. A monograph on hysterical amblyopia, considered by itself without reference to the genital organs, except as a cause, would be welcome to the profession, and a help in elucidating some peculiar visual disturbances occasionally met in women. C.

A PRACTICAL MANUAL OF GYNÆCOLOGY. By G. R. SOUTHWICK, M.D., Assistant Professor of Obstetrics in the Boston University School of Medicine: L. M. Rotunda Hospitals, Dublin. Second Edition. Boston: Otis Clapp & Son, 1891.

This is a well written work of 532 pages, containing directions for operative, homœopathic, and electrical treatment. It is apparently up to date and should be useful to the general practitioner. The presswork and binding are good and many of the plates are original. D.

PERSONALS.

—Dr. Ernst Adolf Coccius, of the University of Leipzig, died recently of apoplexy. He was among the first to give character to ophthalmology as a specialty after the discovery of the ophthalmoscope. His work, the "Use of the Ophthalmoscope," published in 1853, contained many original observations on the physiological and the pathological conditions of the fundus oculi.

—Besides the death of Professor Coccius we regret the decease of several other ophthalmologists of some note. The *Annali di Ottalmologia* records the death of Dr. Enrico Velardi of Naples. He was one of the first to describe the curious phenomena of colored audition, and leaves a careful work on this subject (*Della udizione colorata*). Two other deaths are recorded by the *Recueil d'ophtalmologie*—Dr. Szokalski, of Varsovia, and Dr. Martin, of Marseilles. The former is the author of an important work on "Visual Disturbances of Cerebral Origin," as well as a number of smaller publications. The latter was one of the oldest collaborators of the *Recueil d'ophtalmologie*.

—Dr. F. F. Casseday has removed from Kansas City, Mo., to 828 First Avenue, South Minneapolis, Minn.

THE JOURNAL OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

EDITOR,
CHARLES DEADY, M.D.

ASSOCIATE EDITORS,
H. H. CRIPPEN, M.D.
MALCOLM LEAL, M.D.

CHRONIC CATARRH OF THE DRUM.

BY WM. E. ROUNDS, M. D., NEW YORK.

This disease is a great bugbear to the aurist. It is very unsatisfactory to treat. It is to the aurist what Conjunctivitis Trachomatosa Chronica is to the oculist. In the hope of contributing something toward the successful treatment of this disease, I have decided to give a résumé of my experience.

Chronic catarrh of the middle ear has a host of symptoms, and from time to time has been given many names, most of which have been selected on account of some symptom or set of symptoms prominent in the disease. It is spoken of as "Progressive Hardness of Hearing," "Sclerosis of the Drum Cavity," "Proliferous Inflammation of the Middle Ear," and "Nervous Deafness." All of these conditions are but the symptoms of the insidious disease known as Chronic Catarrh of the Middle Ear, a malady which invariably has its origin in a diseased condition of the mucous membrane of the naso-pharynx. It is unnecessary for me to speak at length in this paper of the various and many symptoms manifested in this disease. As a rule the first symptom noticed is tinnitus aurium, although in many cases a great deal of hearing has been lost before the patient has received any warning at all. Then, again, patients very soon get accustomed to mild forms of tinnitus, and say nothing about it to their physician, because they do not

know of how serious import is the symptom. It is only the distressing forms of tinnitus which often cause more suffering than does actual pain, which are brought to the physician for relief. Tinnitus aurium is usually the forerunner, the "note of warning," of a serious catarrhal inflammation of the drum cavity, and, if persistent, is almost positive evidence that the condition has become chronic. But this symptom is not always present; some of the most stubborn and hopeless cases I have ever seen have come on without a symptom beyond the loss of hearing.

I have had patients who had completely lost their hearing in one ear for all ordinary sounds, and a good part of the superfluous hearing in the other, before they had any idea that they were getting deaf. We often have patients who discover they are deaf in one ear by a mere accident. It is no wonder, then, that this disease is a difficult one to give relief from, for cured it very rarely or never is, so stealthily does it creep upon its victim, and deprive him of one of the greatest pleasures of living.

A few words regarding the objective symptoms and their relation to the prognosis in these cases. If a patient comes to me complaining of tinnitus aurium and "stiffness" of hearing, and I find the external auditory canal dry and empty, or containing a quantity of dry, brittle cerumen; if the lining of the canal looks polished, the tympanic membrane is very translucent, and there is great prominence of the short process of the malleus, I do not tell the patient that I can restore the hearing in that ear. I hasten to examine the other ear, hoping to find a more promising condition there. It is usually the case that we find one ear in much worse condition than the other. I have had patients come to me for increasing deafness of one ear, and upon examination find they had long before become absolutely deaf in the other ear; a fact of which they had not the slightest idea until I made it plain to them. After examining the external auditory canal I proceed to the inspection of the throat and nasal passages. If I find the mucous membrane of the throat pale and thin, the fauces large and

roomy, if the lining of the nasal passages is atrophied, I give an unfavorable prognosis. If, on the other hand, I discover the throat inflamed and red, if the tonsils and the glandular tissue in the upper part of the pharynx, especially that about the pharyngeal openings of the eustachian tube, are hypertrophied, if the nostrils are stopped up by hypertrophic inflammation of the mucous membrane covering the inferior and middle turbinated bones, I give most confidently a favorable prognosis.

In the atrophic form, when the throat is pale and thin, and the mucous membrane of the nasal passage atrophied, no great amount of the lost hearing can be restored, but I am sure in every case some can be given back. In these cases I always begin at the throat, where years before the trouble began, and endeavor to stimulate into action the diseased mucous membrane. I will not speak in this place of the homœopathic remedies used, but will confine myself to a description of the local treatment. The solution from which I most frequently get good results is the glycerole of Iodine and iodide of Potash. After washing out the nasal passages carefully with a solution (weak) of salt and water, to which I usually add a few drops of carbolic acid, I carefully dry off the parts with absorbent cotton, and with the same, on the end of a cotton-holder, apply the glycerole to the wasted mucous membrane of the nasal passages and the upper and lower pharynx. This I do twice a week for a number of weeks, when I substitute for it boroglyceride, twenty-five to forty per cent. The first indication of improvement will show itself by the appearance of cerumen in the external auditory canal, and a disappearance of the polished brightness of the lining of the canal. In some cases I have noticed a slight injection along the handle of the malleus. If these signs of improvement appear during the first few weeks of treatment I hail them with joy, for I then know that the patient will receive back much of his lost hearing, and it enables me to give positive and salutary encouragement, which is of no slight importance in these cases. The treatment is necessarily a prolonged one, and

patients too often get discouraged before the treatment has had a fair trial. It is the patient who starts in with the treatment, with the full understanding of the probable tediousness of it, who eventually receives the greatest benefit. Nothing can be gained by haste. The disease comes on gradually, and must of necessity be slow in getting well. Very often irreparable injury is done by too vigorous treatment.

As the condition of the throat improves I use Politzer's air bag to inflate the middle ear, and Siegel's speculum to assist in breaking up the adhesions of the drum cavity. In connection with this instrument I sometimes use one of Buck's loops, armed with a bit of cotton, to force inward the membrana tympani. I do this sometimes even to the extent of causing severe pain and vertigo, and am sure I have in this way increased the conductive power of the sound-conducting media. In some cases of extreme unnatural dryness of the canal, I instruct the patient to lubricate the surface of the canal and drum-head with fluid Cosmoline with which has been thoroughly incorporated five per cent. of Eucalyptus oil. Sometimes a solution of glycerine and Eucalyptus oil in the same proportions acts better.

It is best to be cautious in the use of Cosmoline and vaseline about the ear. If the patient has a tendency to eczema, it is almost sure to provoke an outbreak of the disease. When I think I have reason to dread the use of petroleum preparations and I do not wish to use glycerine, I prefer a mixture of oil of sweet almonds and Eucalyptus oil. My experience leads me to avoid using the Eucalyptus oil in stronger solutions than five per cent. I never pour these mixtures into the canal, as that would surely increase the deafness and many times cause great distress. I simply gently lubricate the walls of the canal and the external surface of the membrana tympani, being careful not to leave a feeling of obstruction of the ears. In some cases I have obtained relief of some distressing symptoms from the use of a small pledget of dry cotton worn very loosely in the canal.

This is especially useful when the canal is straight and the meatus externus unusually large. It seems in these cases to help promote the secretion of wax. In fact it gives an artificial protection to the external auditory canal and drum very much needed. I think that in many cases the cold atmosphere coming in contact with the unprotected canal and drum-head is the cause of persistent tinnitus aurium and other distressing auditory symptoms. I wish to emphasize the fact that the cotton must be placed loosely in the canal, so as not to cause a feeling of obstruction, or to injure the canal by pressure.

As soon as cerumen begins to reaccumulate the cotton tampon should be gradually reduced until it can be dispensed with altogether. When the case before me is one connected with a hypertrophic inflammation of the naso-pharynx, my treatment is somewhat different. In these cases there is apt to be an increase of cerumen in the canal, and often the patient comes solely on account of deafness caused by the impacted wax. It would be well if physicians would remember that impacted cerumen is an indication that the drum is being invaded by catarrhal inflammation, and that something more should be done than syringing the accumulation from the canal and sending the patient on his way rejoicing in his recovered hearing, unwarned of the calamity hanging over him. Impacted cerumen calls imperatively for throat treatment, and it is wonderful to see how invariably the ceruminous glands resume their natural action, as soon as the disease of the pharynx is under control. If the throat is swollen and red and sore, I usually begin treatment by the application twice daily of glycerole of tannin to the pharynx, washing out the nares with a weak carbolyzed solution of salt and water, once daily or every second day with the post-nasal syringe. If the throat is not acutely inflamed, or as soon as the acute inflammation has been subdued, I apply the compound iodine Glycerate to the pharynx, especially to the diseased mucous membrane in the vicinity of the pharyngeal orifice of the eustachian tube, and as promptly as possible reduce the tube to a condition of

patency so that air may freely enter the middle ear, for upon this largely depends the success of treatment.

If the tonsils are enlarged, I reduce their size by excision or the use of the galvanic-cautery needle. If the nasal passages are obstructed by hypertrophied mucous membrane, I reduce the swelling by cauterization until the patient can breathe easily with his mouth closed. This accomplished, a long step has been taken toward relieving the tubal and tympanic catarrh. For this purpose I use such escharotics as nitric and chromic acids, but for some time I have been using the galvano-cautery with great satisfaction. The reaction is not nearly so great as when the acids are used, and the relief much more prompt and permanent. Care must be taken not to open up the nasal passages too freely. Latterly I have used the cautery upon a very limited surface only at one sitting, and just as soon as I get the nasal passages in such condition that the patient can breathe easily with the mouth closed, I stop the use of the cautery and treat the case as an ordinary case of catarrh. I have used the cautery for destroying hypertrophic tissue in and in the vicinity of the pharyngeal orifice of the eustachian tube. In some of these cases I have given great relief from deafness and tinnitus. In two or three cases I produced a severe sore throat, with no compensating relief from the aural symptoms. As yet I have never had a case of acute inflammation of the middle ear which could be traced to the use of the galvano-cautery. I have devoted considerable space to local treatment of chronic catarrh of the middle ear. The selection of the homœopathic remedy is *not* of secondary importance. At the Ophthalmic Hospital nearly all the cases of chronic aural catarrh are treated by internal remedies alone, with the exception of the occasional inflation of the middle ear by Politzer's method. Only those cases are sent to the throat clinic in which the throat symptoms much overshadow those of the ear.

The following are the routine remedies, with their indications:

Argentum Nitr.—Confusion of hearing, on account of

clear, distant ringing sounds in the ears. All sorts of ringing sounds in the ears, immediately followed by a dull, stopped-up feeling. Chronic catarrh of the pharynx, with dark redness of the uvula and back part of the throat. Throbbing pain in the throat, with sharp, sticking pains. Accumulation of mucus in posterior nares, with sensation as if something were lodged on the upper surface of the soft palate. Dropping of mucus from the posterior nares into the throat, nauseating the patient. Chronic nasopharyngeal catarrh, with profuse discharge from the posterior nares.

Aurum Mur.—This remedy has benefited cases of chronic middle-ear catarrh, associated ozæna, and caries of the nasal bones; stoppage and ulceration of the nasal passages.

Baryta Mur. I have often found useful, especially for children suffering from chronic catarrh; children who are hard of hearing off and on, whenever they get cold or the weather is damp. Ear-ache now and then. Stupid-looking children who cannot breathe through the nose. Pain in the ears when blowing the nose, with bubbling, crackling sound, as though the tympanum were full of mucus. Crackling sounds in the ears when swallowing. Granular and infiltrated throat. Follicular and glandular hypertrophy. Throat looks raw and feels a little sore all the time.

Belladonna.—Belladonna is not often thought of in chronic catarrh, but I have relieved some cases of chronic inflammation of the eustachian tube very promptly with this remedy. I prescribed upon the throat symptoms chiefly. Dryness and redness of the throat, with sensation as if swallowing over a lump. Weak feeling in the throat and difficulty of swallowing liquids. Aggravation of an aural catarrh, from wetting the hair. Hardness of hearing aggravated by having the hair cut.

Calcareo carb.—This is a remedy more often called for in chronic suppuration of the drum, but will quite frequently be useful during the treatment of a sub-acute catarrh of the tympanum, brought about by getting the feet wet, or sitting in a draught; pain in the ears, when blowing the nose, which disappears when swallowing. The patient is very sensitive

to the air, and dreads anything like a draught. Soft, flabby children, who perspire easily.

Causticum is a useful remedy in sub-acute tubal catarrh, where the patient has a dull, numb feeling in the affected side of the head, with a sensation as though the voice came out through the ear; sticking in the region of the eustachian tube. When speaking his voice sounds strange, as though his head were in a barrel. Raw, acrid, scraped sensation in the throat and behind the palate.

Conium mac. will be useful in sub-acute catarrhal inflammation of the middle ear, when, with the inflammation of the throat, there is associated an increased activity of the ceruminous glands, and there is a discharge from the ears of a dark-yellow cerumen, often of an offensive odor.

Kali mur.—Probably this remedy is used more frequently than any other at the Ophthalmic Hospital for chronic catarrh of the middle ear. It seems to benefit every case in which there are no marked symptoms for the selection of a drug. I usually give it in all cases of progressive deafness in which there are no throat symptoms to point out to me a better remedy. It is a good remedy in the atrophic stage of naso-pharyngeal catarrh, and will assist local treatment in the restoration of some of the functions of the mucous membrane. I have seen this remedy in many cases positively check the progress of a catarrhal deafness without the aid of any other treatment. I prescribe usually the 3x preparation, and have never been able to trace to it any bad effects upon the kidneys, such as we so often get from the continuous use of Kali chlorate. Many of these cases of chronic catarrh of the middle ear, when they first come under my care, are suffering from general debility; and when this is the case I always alternate Calcarea phosp. 3x with the Kali mur. They certainly do wonderful team work.

Kali iod.—For hardness of hearing with digging, tearing pains, apparently in the middle or internal ear; shocks of pain through the head like electricity; stopped-up feeling in the ears with burning, raw roughness of the throat, with viscid, salty expectoration, with irritation of the mucous membrane of the nose.

Merc. dulcis.—Of all the preparations of Mercury the mild chloride seems to be the most often called for in the disease under consideration. It appears to have a special affinity for the tissues of the throat, and particularly of the eustachian tube. When this remedy is indicated we find the external auditory canal dry, and somewhat injected near its internal extremity, with more or less injection of the blood-vessels along the handle of the malleus. There is always a decided retraction of the membrana tympani. There will be deafness, increased whenever a cold is taken, with all kinds of strange noises and a feeling as if there is a plug in the external auditory canal. A feeling as though he would have ear-ache—*hints of pain*. The throat is usually red, flabby, and somewhat infiltrated. The uvula is elongated—looks as though the patient had repeatedly tried to swallow it, soreness of the throat which extends to the eustachian tubes; sometimes the throat has a dry, dark-red appearance like burnished copper.

Merc. prot.—When this remedy is called for, the throat will be red, swollen, and infiltrated. Acute pharyngitis, when all the glands of the throat are involved.

Nux vomica.—I find this a useful remedy for removing some very disagreeable symptoms of catarrh of the drum. My chief guiding symptom is tinnitus and disagreeable “stiffness” of the ears, which is always *worse in the morning*. With this symptom there is usually soreness and rawness of fauces. Burning in the throat, as though he had swallowed something acid, or as if the upper part of the pharynx had been scraped by a sharp instrument. Burning and itching in the region of the eustachian tube. Tinnitus and hardness of hearing, associated with *nasal obstruction* and dull *frontal headaches*. Since my attention has been called to this remedy I have seen some remarkable results from its use. It is a remedy for tubal catarrh of smokers and drinkers. It seems also to assist in restoring tone to the auditory nerves, and has benefited many cases of so-called nerve deafness, associated with chronic catarrh of the middle ear.

POLLEN CATARRH—HAY FEVER.*

BY HORACE F. IVINS, M. D., PHILADELPHIA.

In my desire to select some subject that might be international, I cast about for a title that should suit in that direction, as well as one that should be seasonable. Although hay fever has received a large share of attention, the army of its sufferers too eloquently pleads the necessity for still further ventilation of the practical principles of prevention, amelioration, and cure. While I may propose nothing new, I shall attempt to present something that experience has proved valuable, and which will provoke controversy.

It is not my intention to weary you with the recital of the many well-acknowledged portions of etiology, pathology, diagnosis, and the whole train of treatment. I shall, however, take the liberty of noting those well-known points which are frequently allowed to occupy a secondary prominence, those still open for discussion, and points of personal belief.

Why an affection that is rarely, if ever, attended by an elevation of temperature should be styled a "fever," and why the word "hay" should be applied to a condition so little affected by that article, would be scarcely comprehensible were it not so difficult to alter old names, break old habits, or tear off the bandage bound by tradition. The name "hay fever," then, while far from correct, is retained

* Read before the International Homœopathic Congress, Atlantic City, June 19, 1891.

chiefly for the sake of the laity and the past. By this time my iconoclastic ideas may be surmised.

Many names have been proposed, but uniformity is impossible at present, and as long as writers retain "hay fever," as even the occasional title, no other will prove satisfactory. I shall not attempt to be dogmatic, neither shall I present any new title. It is my purpose, however, to revive the name given by that master investigator, Blackley, who called the affection "pollen catarrh." This is unquestionably the one title which covers all, and is unassuming and intelligible. As it will require time to make this the popular appellation, let the term "hay fever" be affixed, but never prefixed, to that of "pollen catarrh."

The cause of the affection is clearly indicated by this title. That other influences than pollen are at work none can doubt, else all who come in contact with these particles would suffer; but no one who has carefully read the master work of Dr. C. H. Blackley (*Hay Fever ; Its Causes, Treatment, and Effective Prevention. Experimental Researches. 2d Edition, 1880*), can fail to believe that pollen is the one external exciting cause, while all others are mere adjuncts.

A few words may now be appropriate in respect to the factors that reside within the patient himself. Since comparatively few persons are victims of the affection, there must be some inherent peculiarity, either inherited or acquired, which acts as the predisposing element in precipitating the attack. That this proclivity or idiosyncrasy resides in the nose there is but little doubt; where else in the economy it has its counterpart I do not pretend to say, but this much is certain, that such a condition on the part of the nasal passage is an essential of periodical vaso-motor rhinitis. Two factors, then, pollen irritation and idiosyncrasy, are essential to the presence of the paroxysm, either of which being absent, the other must prove inoperative.

Most recent writers lay much stress upon the presence of a neurotic feature in every case, and although not thoroughly convinced, I am free to admit that in most

patients, a nervous element is present, yet it is quite true that in others it is apparently absent.

There are regions in which this affection, termed by the late Henry Ward Beecher "worse than the Inquisition," is unknown; there are others in which it is rare; at the same time it must be remembered that one pollen-catarrh individual will be exempt from the least indication of a seizure at the time and place in which others are suffering from the disease.

Thus it is evident that there are certain elements wanting in special locations, seasons, and cases which prove that the exciting cause is not identical for each person. This fact has led most writers to look for an entirely different, rather than a modified cause. Thus light, heat, smoke, ozone, fur, so-called common dust, etc., have been accused of such power, but their apparent potency vanishes under the gaze of such investigations as Blackley brought to bear, and had his observations been less searching, those that have followed them would have proved sufficient to banish all doubt. We may grant that these various elements have the power to aggravate an attack instigated by pollen, but they should only be regarded as the little annoyances that augment the suffering produced by the one great excitant, pollen. It has also been proved that even among the sufferers, one person is much more sensitive to the action of pollen grains than another, and that certain flora prove very irritating to one, and practically harmless to another. To this fact superficially regarded, is due the erroneous though common belief, that pollen is only one of the many causes of the affection.

In this connection, it will be well to refer to the influence of exercise on the paroxysms of pollen catarrh. As is well known, the more violent the exercise (nasal respiration obtaining), the greater the amount of air drawn through the nasal passages in a given time, and hence the greater number of pollen grains brought into contact with the sensitive membrane in an atmosphere equally laden with this material. As a result the attack is usually aggravated by

exercise during the time of seizure, if in a pollen-laden atmosphere. This has led to the advice, to keep as quiet as possible during such times. To judge by my own observation, however, such advice needs some modification, for I have frequently found that, if systematically conducted, exercise generally lessens the severity of the paroxysm after one or two hours' subsequent rest; and that, other things being apparently equal, in seasons in which systematic exercise was carried out before and during the time of attack, the seizures were of far less severity than during other years.

Pathologically, there is nearly always some visible alteration in the nasal fossæ; that there is always some deviation from the normal, not always detectable, must be admitted. The visible alterations consist, as a rule, in a catarrhal change, turgescence, hypertrophy, septal deviation, and various tumors and infiltrations.

Symptomatically, I have nothing to add, other than that most articles upon the subject written by non-sufferers are far too mild in their statements.

I take up the prognosis with feelings of decided satisfaction. In this I am greatly at variance with those writers, who, in the vast majority of cases, look upon the disease as incurable; and also with those who consider palliation the summit of their ambition. My belief is more satisfactory, more encouraging, and more agreeable. While I do not think every case curable, or even capable of permanent amelioration, I do feel that cure is a frequent occurrence, permanent palliation the rule, temporary relief the exception, and irremediable cases practically unknown. These, too, may be gained without subjecting the patient to weeks or months of practical banishment to some barren island, rocky cliff, or "a home on the rolling deep." While these changes are the easiest methods of relief, especially to the physician, they should not be looked upon as the only havens of rest. I do not wish to appear over-sanguine or rash in my statement with reference to these poor, forlorn sufferers of summer; and lest there be any misunderstanding,

I will say that this seeming Utopian idea will not be frequently realized by the direct treatment of the one paroxysmal season, but to attain its end must extend over at least fourteen months.

These hasty comments bring us to the foot of that steep rock, which, however, is becoming easy to ascend, owing to the indelible foot-prints left by those who have planted there the flags of victory.

Treatment.—For convenience of description, this division of our subject naturally divides itself into three heads, as follows: 1. Hygienic and Preventive. 2. Local and Mechanical. 3. Constitutional, or Internal.

In connection with the first of these it is important to remember that what will act best in allaying catarrhal conditions and other nasal defects will be of great value here as well. These are proper medication, plenty of good, fresh air at all times, and such exercise as is best suited to develop the respiratory and nervous functions. Thus, during warm weather, systematic, mild gymnastics, including bicycling, rowing, archery, horse-back riding, etc., and during the winter, fencing, sparring, gymnastics, billiards, etc., should be adopted. Violent exercise, and all prize contests followed by long rests when over-heated, such as base-ball and cricket, are to be carefully avoided. Under hygiene naturally belongs bathing, especially the daily sponge bath, followed by vigorous friction of the surface of the neck and chest with coarse towel, flesh brush, or horse-hair gloves. The water used for such bathing should be cold, if the patient react promptly to the subsequent friction, and it is better that it contain salt. Although of undoubted utility, nasal respiration usually receives far less notice than its importance demands; it is even advised by some that the patient plug the nostrils with cotton and breathe through the mouth during the seizures, that the pollen may not enter the nasal passages, but be carried into the lower portions of the respiratory tract, where it will not occasion the aggravating nasal symptoms. This is bad advice, as such a procedure will often engender still worse conditions, either im-

mediately in the dry throat, cough, pharyngitis, laryngitis, or asthma; or remotely in permanent nasal stenosis or a chronic catarrh of the respiratory tract below the nasopharynx. Sleep and diet should be carefully regulated, especially preceding and during the dreaded season. Preventive treatment evidently forms a part of the grand chain of measures which looks not only to that which the goddess Hygeia dictates, but to that which will render inert the direct cause of the attack—pollen.

Local and mechanical treatment are of importance where it is possible to find a marked pathological alteration. As such deviations are of frequent occurrence in the subjects of pollen catarrh, the physician will have ample opportunity to display his tact in their destruction. Many teach the necessity of removing every trace of diseased tissue, from the greatest hypertrophy to the minutest area of abnormally sensitive tissue. To this I can by no means subscribe. Even this bold treatment is not always followed by a cure, as the symptoms may return after the lapse of a few summers, and there is danger of its being followed by other and worse conditions. The amount of mechanical interference then, is a point which requires judgment and caution, directed to the best interests of the future well-being of the patient; it is a better plan to do too little rather than too much. This conservative idea is not that of fear, but of discretion, the "better part of valor." All tumors should be removed according to the precepts of rhinal surgery. It is not always necessary to remove hypertrophic tissue, but if it impinge upon the opposite wall of the nasal fossa, particularly if the middle turbinated be implicated in such contact, there should be no hesitation in removing the pressure, but, as a rule, the total destruction of the hypertrophy is neither necessary nor prudent. I am opposed to the free destruction of the mucous covering of sensitive areas, as these tracts are often very extensive, and by following the whole course of this often temporarily hyperæsthetic tract, the ignis fatuus may lead us to wholesale destruction of the mucous lining and part of the deeper tissues, with subse-

quent atrophic catarrh. For such a course we should deserve censure. If the turbinated tissue be chronically and greatly engorged or even quite constantly so during the pollen catarrh period, it is advisable to incise it with the galvano-cautery point. In this procedure the most prominent portion should be selected for the line of incision. If one treatment fail to relieve, the same incisive line should be scrupulously followed in all subsequent operations. It is necessary to use cocaine freely before applying the cautery, and to make the incision sufficiently deep to reach nearly or quite to the spongy bone; so that in the healing process the cicatricial contraction will attach the superficial tissues to the deeper structures, or "pin them down," as expressed by Bosworth.

In chromic acid the galvano-cautery has a strong ally, in that it is possible after absolute cocaine collapse of the tumescent tissues covering the turbinateds, to pin these down by the use of a few crystals of the acid. Of the methods of removing the various growths and hypertrophies I need say nothing, as they are governed by the rules of their appropriate treatment.

We are now brought face to face with the question of local palliation. There is no doubt that cocaine will rarely fail to promptly control the severity of the paroxysm, in a subject unaccustomed to the action of the drug, and that after a time it occasionally loses much of its primary influence. It is just this loss of control that makes the use of the drug a puzzle. It has been my habit to prescribe it and to let the patient spray it into the nose once a day, at the hour when the seizure seems to reach its climax. In this way the worst symptoms are obviated, and the patient does not feel the necessity for the frequent repetition that follows its habitual use; nor is he subjected to the subsequent increased engorgement and heightened secondary annoyances. Again, if used regularly for some time, it is often necessary to increase the strength of the solution, or it will fail to relieve. At first it should be tried in a one per cent. solution; if not sufficiently strong this may be substituted

by a two, three, or four per cent. mixture, but I doubt the advisability of prescribing a stronger solution.

In many cases the use, two or three times a day, of one of the following sprays, will obviate the necessity of resorting to cocaine; and, as no constitutional symptoms arise and no ill-effects follow, they should be given a trial in cases of great irritation and obstruction: Naphthalin, five per cent. in fluid Cosmoline or Albolene; Menthol, three per cent. in one of these oils; or chromic acid, one-half per cent. in water. These solutions may be used three or four times a day, if necessary; and, while they do not give the decided and prompt relief afforded by cocaine, their continued use often results in diminution of the engorged tissue.

On account of the conjunctival irritation, many persons prefer to use colored glasses while out of doors; and some find it advisable to instill fluids, as later directed.

The internal curative treatment follows next. It is this, after all, upon which we must rely for the relief of all the symptoms which mechanics improve; and it is the only true cure for those cases in which the nasal lining is in an apparently normal condition. Nevertheless, all that will relieve without entailing subsequent injury or aggravation should be employed. In this branch of the subject, it is necessary to include prophylaxis and treatment of the case after the onset of the attack.

In this portion of the paper no repertorial efforts will be put forth, but an attempt will be made to give in a concise form those remedies and indications which have served the tests to which I have put them in some of the most trying cases of pollen catarrh. Some of the points have already been put on record (*Trans. Hom. Med. Soc. State of Pa.*, 1886), but for these repetitions I shall crave indulgence, in my desire not to pass unnoticed anything of personal experience, which may aid in alleviating the sufferings of the afflicted.

Empiric though it may be, I have found no remedy which acts prophylactically as does *Allium cepa*. In all cases

which come to me just before their anticipated seizure, and which do not present decided symptoms of some other remedy, I begin with *Cepa* 30x or 200x once daily. This is continued until the appearance of the paroxysm, if it occur, when a remedy is selected, according to the most prominent symptoms. In many instances, however, the attack is so mild or so delayed that I do not think it well to change from the *Cepa*, which is then continued until the usual pollen-catarrh period has passed. My chief indications for the use of the remedy are: immoderate sneezing, profuse, bland, or excoriating watery flow from the nose and eyes; much itching of the nose, conjunctiva, and nasopharynx; and nasal obstruction, headache, and disturbance of sleep and appetite. If, in addition to these, there be dropping of fluid into the pharynx, slight hoarseness and laryngeal tickling and cough, I prescribe this remedy with much confidence. It is of special value if dust and the odor of onions aggravate. It has not only given great relief in numerous instances, but has cured three cases without the use of local measures or other remedies; only, however, when given for two or three seasons, during the attack as well as for some weeks before.

Rosa damascena 6x to 30x often acts prophylactically and curatively for the spring form of the disease; namely, rose-cold. Later in the season I have never found it of much benefit, and it is not suitable for the asthmatic form of the affection.

Naphthalin is frequently preventive in its effects, but it is in its curative sphere that it stands second only to *Allium cepa*. In order to obtain good results I have been obliged to use the remedy in the 2x or 3x trituration, as it seems almost inoperative in the higher preparations. One of its chief indications is a high degree of asthma. With *Naphth.* there is more swelling of the conjunctiva (chemosis) more puffiness of the whole face than in *Allium cepa*, and the secretions are usually more excoriating. In most cases in which the remedy is used internally, I order a spray of five to ten per cent. in fluid *Cosmoline* to be used in the nose

several times a day. If the conjunctiva be much affected the same solution should be instilled into the lachrymal sac, as occasion requires; generally with the happiest results. If there be marked photophobia, the daily instillation of a one-half to one per cent. solution of cocaine often assists materially, as will boric acid, one per cent.; glycerine, pure or diluted; or warm salt water.

Arsenicum jodatum stands next to the remedies noted, in order of usefulness. I have sometimes even believed it superior to Naphthalin, but its action is not so lasting, nor is its prophylactic effect so faithful. This remedy produces glandular enlargements, even to the follicles of the pharynx. The excoriating discharges, prostration, paleness of face, and burning and itching of all the affected mucous surfaces are important characteristics. Its use is most potent in the 3x and 4x trit., but the doses should not be too frequently repeated, neither should the drug be given for prolonged periods, which is the exact reverse of the preceding remedies.

Arsenicum album is indicated in conditions similar to those calling for Ars. jod., but in which there is less prostration and less glandular involvement, but more asthma.

Chininum arsenicum is a remedy of undoubted clinical value, but, as yet, I cannot strictly place its symptoms. So far, however, it has acted better in females, where there were associated menstrual irregularities, loss of appetite, nervousness, despondency, and tendency to insomnia. It is deserving of repeated trials and, judging by my limited use of it, must prove very efficient in pollen catarrh.

Artemisia folia bears an undoubtedly strong relationship to this affection as it occurs in the later months of the season, but clinical experience has not proved it to be very efficacious in my hands, although it did promptly relieve the asthma in two instances, but without giving marked relief to the collateral symptoms.

Euphrasia has served to lighten the attack by controlling the profuse excoriating lachrymation, swelling, and inflammation of the lid margins, together with burning and itching,

not only causing the patient to wink frequently, but to rub the eyes.

Gelsemium often relieves the premonitory symptoms; chiefly the fullness in the frontal region, dryness in the nasal fossæ, and mild nasal obstruction. This remedy is rarely indicated, unless there be pain in the occipito-cervical region.

Arum triphyllum assists much when there is an acrid, thin discharge, which excoriates the muco-cutaneous margins. In one case *Arum* 12x was the only remedy used, and cured the case; as no marked pathological alteration existed, no local measures were employed.

Sanguinaria nitrate, by controlling the hypertrophic tissue in the naso-pharyngeal region, has prevented subsequent attacks.

Calcarea phos., as advised by Dr. Robert T. Cooper, for adenoid vegetations, is of equal or even greater value, in some instances, than the last named remedy.

Nux vomica has repeatedly afforded marked relief to the nightly asthmatic attacks.

Sabadilla, *Kali hydr.*, *Aconite*, *Puls.*, *Natr. ars.*, and other remedies have proved efficient aids to cure. Where possible, cases should be individualized, but when this cannot be done we are not justified in withholding empirical prescriptions or mild adjuvants, in any case not promptly responding to the internal remedy alone.

OCULAR MASSAGE.

BY C. GURNEE FELLOWS, A. M., M. D., CHICAGO.

The title of this paper suggests a field concerning which comparatively little has been written, but one which is capable of development and from which, I believe, we can gather useful knowledge.

The subject of general massage is too well known to need comment. Starting, a few years ago, as a fad, it has developed into a science. There are those who go so far as to claim that almost all diseases may be cured by the application of massage, just as there are doctors who try to cure all diseases by one pet specific. One-sidedness is not to be admired ; but it seems to be the nature of things that leaders in new paths should be thought ultra, and often the real worth of a thing be only discovered in after time.

All methods of treatment have their special points of excellence, and yet they may not be generally applicable ; but it seems to me as important to have within our reach all the means of treatment as it is to have the totality of the symptoms.

If there is any one thing that stands out pre-eminently as the result of general massage, it is its toning-up effect. It has become common to prescribe Swedish movement cure, sea-salt baths, and mud baths for the cure of a thousand and one ailments, and in all of these various and varying methods massage, in some form, is the one common factor. Weak conditions are strengthened, sickly ones built up, worn-out ones regenerated ; a new impetus is given to life. Well, so it may be in localized parts of the body, and so

it is in the eye. Not only may it be used in the positive and pronounced external diseases of the eye, but it has seemed to exert a special influence upon a class of cases hardly reached by the ordinary treatment and coming under no specially named disease. I refer especially to the condition so often described by patients as "weak eyes," and generally called asthenopia. But oftentimes the asthenopia is neither accommodative, muscular, nor retinal. There is no positively marked disease of the lids, cornea, or conjunctiva, and yet there is lacking something to give the eyes a comfortable feeling.

In my experience these are cases which are benefited by local massage, by a toning up of the parts. It is by increasing the circulation, by absorbing any foreign deposits, by promoting a healthy activity of the glands, and by stimulation of the peripheral ends of nerves.

CASE.—A strong young man presented himself, complaining of "weak eyes." They had troubled him for two or three years; there was a redness of the lids and a slight thickening, not amounting to blepharitis; an over-secretion of tears, and yet not lachrymation, but a continual consciousness of the presence of his eyes. He had been treated with local applications and by internal remedies, more or less, and came saying that, as yet, nothing had benefited him. Boracic acid powder was dusted into the eyes and gentle massage applied directly to the everted lids, followed by indirect massage to the balls, through and by means of the lids; then, following the usual method, the whole washed away by a solution of boracic acid. This was repeated once a week for six weeks with a most decided improvement in the appearance and comfort of the eyes, with a lessening of the redness and thickening of the lids and directly traceable to the massage, for the two following reasons: 1. Other means had been tried and failed, viz.: internal treatment as well as local applications, but without massage. 2. It was something beyond the free use of boracic acid that gave the benefit, for experience has proven to other investigators that the local application alone, without massage, will not accomplish what it will with massage; but, on the

other hand, massage is ordinarily increased as to its efficiency by use of some intermediate medicament.

Here was a case which presented no positive disease, but which was cured of troublesome symptoms by the tonic effect of massage. Other similar cases could be cited showing the same result. In some it seemed as though some muscular defect might have been the cause of asthenopic symptoms; but its correction, or the correction of errors of refraction, having been accomplished without relief, when followed by massage with relief, seems to point to it as the means of cure.

So much for its application to a trouble purely negative, but it is as applicable to those of a positive character. The various forms of conjunctivitis, follicular, phlyctænular, papillary, and granular, yield nicely to its effects. In the first three mentioned forms its action seems especially prompt, but since these diseases are more easily cured the results are not so striking, perhaps, but they are very marked. In granular conjunctivitis the action is good, and if we can add another to the means of treatment of this troublesome affection, we will do well. Authors differ as to the treatment of this affection, some advocating the continuous use of one treatment, and others rotation of the various treatments; all are slow enough.

I do not care to claim wonders for massage above other methods in the treatment of trachoma, and I know that positive proof of its value can only be given after long use and by thorough and systematic proving. Others claim this proof as established by their experience.

CASE.—Mr. P., trachoma of five years' standing, with pannus. The usual blue-stone treatment, etc., had been tried and failed, and I was called upon to treat an acute attack of vascular keratitis. The usual treatment gave him relief, and then I commenced a systematic use of massage, applied directly to the everted lid by means of the finger, repeating the treatment twice a week for two months, with apparent cure of all granular trouble, and with no disagreeable after effects, such as scars or

unnaturally dry folds of conjunctiva. Vision is not perfect, but I feel confident in saying that all the traces of the acute attack of keratitis were removed, a good share of the old corneal opacities and the original offending trachoma.

Several similar cases lead me to believe that not only in recent cases can we expect much from it, but in old cases that have been the rounds we may expect to accomplish something by this means; neither can we expect a cure in too short a time, from six weeks to six months being a common time.

It has long been a matter of doubt what did the curing of phlyctænules when calomel was used. Is it not possible that, in addition to the chemical effect, the friction of the lid, conjoined with the powder has been a species of massage? Not only in recent cases of corneal opacity, but also in those of chronic variety does it prove successful.

CASE.—Mary X., large central leucoma. Calomel and mercurial ointments had been used in vain. I began massage, using a mercurial ointment prepared with cod-liver oil, treating the patient once a week, and she treating herself daily, at home. The result was a noticeable lessening of the old scar and opacity.

So we might run the whole gamut of ocular diseases. The subject is one of interest, and from its great results, not only in general diseases, but also in the hands of oculists, we may expect much from its application.

ANGINA LUDOVICI.

BY E. LIPPINCOTT, M. D., MEMPHIS, TENN.

Fr., *Angine de Ludwig* (ou *Sous-Maxillare*). Ger., *Ludwig'sche Bräune*. It., *a. di Ludwig* Sp., *a. de Ludwig*.

Synonym : *gangrenous inflammation of the neck*.

A diffuse phlegmonous inflammation of the floor of the mouth and of the intermuscular and subcutaneous tissue of the submaxillary region, which may end in gangrene, abscess, or in resolution, and sometimes prevails as an epidemic ; so called because it was first fully described by Ludwig of Stuttgart.—*Foster's Encyclopædic Medical Dictionary*, page 269.

Cohen, in his "Diseases of the Throat and Nasal Passages," published by Wm. Wood & Co., 1880, speaks of it as a "Diffuse inflammation of the connective tissues of the neck, sometimes traumatic, sometimes idiopathic, and sometimes an extension from adjacent inflammations."

He claims that "the submaxillary and cervical glands are often implicated," that "the cervical muscles, too, give way to the inflammatory process in some instances," that "the tendency to gangrenous destruction of the connective tissue is very great, and in parts, when opened surgically, or examined after death, are saturated with a discolored, fœtid, and sanious pus in which there are more or less numerous shreds of dead tissue," that, "whether secondary or consecutive, or whether originating in the connective tissue, this inflammatory process is apt to become menacing to life by rapid extension to the surrounding, and to the deep tissues," that, "the various planes of connective tissue become destroyed and gangrenous, with the formation of irregular diffuse abscesses which burrow extensively or point externally, as may be," that, "the abscess may point subcu-

taneously, gravitate into the mediastinum, or rupture into the trachea or œsophagus, or even into the mouth; sometimes pursuing a very circuitous route to reach the exterior."

In one of his cases the affection began after the extraction of a tooth, in an inflammatory swelling of the submaxillary glands, principally upon the opposite side, closing the jaws immovably, and deforming the visage to a marked degree. The lower tissues of the neck were not affected at first. In a few days the abscess burst into the mouth, at a point opposite the second molar of the lower jaw, on the side of the greatest enlargement, and for several days discharged large quantities of foetid, ichorous pus. The abscess then extended beneath the digastric muscle and omo-hyoid, and presented externally over the thyroid cartilage, at which point it was opened by incision, giving egress to several ounces of horribly offensive pus, in which were clots of blood and detritus of dead connective tissue. As soon as this counter-opening was made, the discharge by the mouth ceased. The parts gradually resumed their normal appearance; but although the submaxillary swellings subsided as soon as the abscess commenced to discharge in the mouth, the rigidity of the jaws did not abate until several days after the external incision. During all this time the teeth were slightly separated, so that the tip of the tongue could be passed between them, and this enabled sufficient concentrated liquid nourishment to be taken to keep up the patient's strength during the progress of the abscess.

In searching through our literature I have only found it mentioned in Raue's "Special Pathology and Therapeutic Hints"; Hughes's "Manual of Therapeutics"; "Arndt's System of Medicine"; Baehr's "Science of Therapeutics," where he terms it Parotitis Maligna; Lilienthal's "Homœopathic Therapeutics"; *British Journal of Homœopathy*, vol. 31, 1873, page 177, where Dr. J. C. Burnett reports the only case that I have found reported in our literature; and in Raue's "Record of Homœopathic Literature," 1874, page

108, which is an abstract of the case reported by Dr. Burnett.

Hughes says: "The only homœopathic experience with it known to me as on record is that of Schweickert, who found the ordinary remedies useless in his first case, but cured the next three with Anthracine, a preparation made from the pus of malignant pustule. I have myself seen one case, occurring in connection with syphilitic angina; it made a good recovery under Bryonia and Hepar sulphuris."

Lilienthal classes it both under the head of angina Ludovici and parotitis maligna. He gives as the remedies, Anthrac., Bry., Hep., Kreos., Lach., Merc. cyan., Sil., Tarant. c.

Burnett suggests the name of "Hypomyelitis," and says: "The word as based on analogy is philologically justifiable, and as a generic name would allow of convenient specific subdivisions. The great objection to the child is that it has no father." He contends that associating the name of the first describer of a disease with it is hero-worship and a drawback to scientific progress. He reasons well.

Some writers speak of it as a diffuse inflammation, and others as a gangrenous inflammation. Niemeyer informs us that the term "gangrenous" is misapplied, and speaks of it as a phlegmonous inflammation which may readily lead to diffuse gangrene and sloughing, but in other cases ends in formation of abscesses and not unfrequently in resolution. In the few cases that he has observed, the inflammation of the connective tissue undoubtedly proceeded from periostitis of the lower jaw.

All writers agree that there is a form of the disease which occurs with symptomatic or metastatic parotitis occurring in typhus and other infectious diseases.

The following case will give my experience with the disease:

Mr. B., aged about fifty-five, tall and slender, had hydrocele about ten years, of right side of scrotum. About 1884 a physi-

cian drew off the fluid with trocar and canula. The sac soon refilled. In 1886 I drew it off by the same means and injected a preparation, the composition of which I do not remember. After injecting, I rubbed the sides of the sac well together. The injection produced a slight inflammatory action, but in three days he was able to report at my office.

Before tapping and injecting, the patient was given sulphur three or four weeks, on account of a scorbutic condition of gums and an unhealthy condition of skin.

The sac refilled, but more slowly than before, and in 1887 or 1888 another physician tapped the hydrocele and injected a preparation containing iodine. Considerable inflammation resulted, which confined the patient to the house about two weeks. After the inflammation subsided, there remained thickening and hardness. The sac gradually refilled, and in February, 1889, another physician aspirated it and drew off a large quantity of brownish fluid, smelling like and resembling iodine. He injected a preparation of glycerine and carbolic acid, which set up a high degree of inflammation, and the next day I was called. The scrotum was swollen to nearly the size of his head, tense, tender, and bright red, temperature $104\frac{1}{2}^{\circ}$, pulse 140, thirst, restlessness, nausea, and the patient in intense agony. Hot fomentations and poultices were applied and Verat. vir. given until temperature was reduced. Then Bell., and afterward Aconite. In less than twenty-four hours the scrotum was tapped and a large quantity of wine-colored fluid drawn off. The canula was left in for drainage. As the inflammation subsided it was followed by sloughing and a free discharge of grumous and sanious pus.

The patient remarked that he was wasting away through the scrotum.

The discharge was at first slightly discolored as if with iodine. The sac was cleansed twice daily with warm water containing Succus calendula. A slight fever which he had been having abated, and the temperature went below normal, the pulse ranging between 80 and 90. Before the discharge had entirely ceased and the opening in the scrotum had healed, which was about two or three weeks after tapping, his appetite began to fail; a slight fever with evening exacerbation occurred; he assumed a dull, stupid expression of countenance, complained of headache, slight pain and tenderness of abdomen, more on left side; soreness of

tongue, gums, throat, and especially of sublingual region ; he was nervous, restless, thirsty, sleep was disturbed, there was slight delirium ; a thin, watery, horribly offensive diarrhœa set in. The tongue, which at one time was nearly clean, gradually became coated with a very thick, tenacious, pasty coating, silvery in appearance. I have never seen a tongue with the same character of coating and as heavily coated. Examination revealed tumefaction, hardening and slight soreness in sublingual region, tongue swollen, pointed, red at tip ; gums, palate, arch of palate, and roof of mouth dark red, swollen and tender ; tumefaction and hardness of submaxillary and cervical glands, with slight implication of the parotids.

The roof of the mouth and palatal region were the seat of the greatest swelling. The hardness appeared first and was greatest in sublingual region. Swallowing became painful and difficult. Slight œdema of face and under the eyelids occurred. Urine became scanty and almost suppressed. The pain was not commensurate with the amount of tumefaction and hardness. The inferior maxillary became almost immovable, but the teeth could be separated sufficiently to admit of protrusion of the tongue between them, but not beyond the lips. At this stage a view of the oral cavity was impossible ; the head was slightly thrown backward ; a viscid, tough saliva accumulated, which was removed with difficulty and had to be mopped or wiped out, as hawking caused pain in throat and ears and it was almost impossible to dislodge it by hawking ; a dribbling from mouth caused the attendants to keep cloths folded about the neck ; the breath became offensive ; there was slight deafness which continued for a long time ; speech and articulation became impaired and it was difficult to understand his wants, except for water ; respiration was quickened ; swallowing was almost impossible.

The following remedies were given from time to time as they seemed indicated : Apis., Arn., Ars., Bapt., Bell., Bry., Carbo veg., Hep. sul. calc., Hydrast., Kali bi., Kreos., Lach., Merc. bin., Merc. cyan., Phos., Psor., Rhus., Sil., Sulphur and Tarantula.

Ars., Bapt., Rhus., Lach. and Merc. bin. afforded some relief, but not satisfactory results. My prognosis was a grave one, and I decided to spend a quiet, unmolested night at my office and endeavor to find something to check and cure, if possible, what I believed an incurable malady. Every remedy used or suggested for

the disease was separately studied and the *similimum* was found at about midnight in iodine. The 2x dil. was used locally with a mop and an attempt made to gargle with it. Iodine 3x dil. was administered every hour internally at first, and afterward the 6x dil. was given at longer intervals. The patient showed signs of improvement in thirty-six hours. Ars., Lach., Psor., Rhus., Sulphur and other remedies were used occasionally as they seemed indicated. As the patient improved and a view of the oral cavity could be had, the roof of the mouth and palatal region were greatly swollen, and of a livid redness. Here and there could be seen at least a half dozen small round openings presenting the appearance of the core of a boil about to be discharged. There was a thin, sanious, offensive discharge from them and occasionally pus in lumps and strings.

Concentrated liquid nourishment, egg-nog, and other stimulants, bathing the patient with alcohol and whisky diluted with water, nourishment by enema and other means were resorted to as they were deemed expedient. Egg-nog was for a long time the principal or only nourishment. Hot fomentations were used with but little satisfaction, and were obnoxious to the patient.

He was very much emaciated, and made a slow recovery, being dismissed early in May. He talked philosophically about dying, but never, until the day that I studied up his case, concluded that he would have to quit this mundane sphere. He had slight urinary trouble after his recovery, which was cured with Uranium nit. In a few months he applied for treatment for aphthæ of mouth and tongue. This was cured with iodine. At present the patient has atrophy of the right testicle, but no more hydrocele.

Iodine was the principal remedy used locally, as a gargle, and internally. It was *the similimum*, and without it I could not have reported the cure of the only case of angina Ludovici that I ever saw. The anamnesis of this case is furnished to show the metastatic origin of the disease: its extension from the scrotum.

POINTS ON DIAGNOSIS OF MUSCULAR AND REFRACTIVE EYE TROUBLES.*

BY HAYES C. FRENCH, M. D., SAN FRANCISCO, CAL.

Optometers.—There has been from the first an unaccountable prejudice, on the part of oculists in general, against optometers, probably growing largely out of the fact of their common adoption by opticians, and a desire to maintain at least an appearance of distinction between the two professions; but the time has passed when the live oculist can afford to lose the aid of so important an adjunct for so unimportant a reason. After four years' daily acquaintance with one, it is more and more a wonder to us how we lived without it so long. There are many good optometers in use, and all are arranged on the same general plan, and the advantage of any form of optometer, in which the lenses representing an ordinary trial case are so arranged that they may be revolved in rapid succession before the eye, are manifold:

1. Economy of time and patience.
2. Compactness, and protection of the lenses from soiling by the fingers, dust, etc.
3. Changes may be made so rapidly as almost if not entirely to foil the sly fox of accommodative spasm.
4. The revolving disc greatly facilitates that most important, and often the most difficult part of refractive work—the positive determination of the astigmatic meridian.
5. The patient does not forget the effect of one power

* Read before the Homœopathic International Convention, Atlantic City, June, 1891.

before another is placed before the eye, as by the old method.

These are only a few of the advantages that could be named. The optometer is not recommended to supersede the ordinary trial case, but leaves to it the important function of confirming its rapid and masterly achievements, which we are glad to be able to testify, in all fixed refractive troubles, it does. The only caution we have been compelled to observe in the use of our optometer—the “Johnson,” is against its tendency to slightly over-correct in some cases.

The *Prisoptometer* was invented by the late Dr. H. Culberston, of Zanesville, O., and like all bold departures from the beaten path, has met with great opposition, and much indefensible condemnation. The instrument is composed of two prisms of about one and one-half degrees each, the apices of which meet in the center of an opening of three millimeters in diameter, in a revolving metallic diaphragm. A single white circle on a black background presents the appearance of two images under the influence of the prisms, and the instrument is placed at the proper distance to render the margins tangent when seen by the emmetropic eye. In myopia the circles will lap, and in hyperopia they will appear separated; and the glass that renders the circles exactly tangent is the one required to correct the refractive error. By revolving the disc, astigmatic deviations are quickly discovered, and as quickly corrected by applying the cylinder that renders the revolving circles perfectly tangent in all meridians. Each upper quadrant of the instrument is divided into spaces of ten degrees, from 0 to 90, for determining the meridian of astigmatism. The author claims for it that it will detect 88.11 per cent. of myopia without the use of a mydriatic. If so, it is superior to any instrument we know of for determining these defects. We have found it by far the best single test for low degrees of either spherical or astigmatic ametropia, and especially in children, whose intelligent interest in the revolving balls can be easily maintained until the condition of the refrac-

tion is clearly determined. We have seldom seen its indications materially changed by the subsequent use of mydriatics, and would feel lost without this handy test, with which we almost always begin examinations for refractive defects.

The Skiascopic Disc.—Few additions to the appliances for refractive study have met at once the same degree of commendation and virulent opposition, as the claims of skiascopy. Like the ophthalmoscope, it requires too much practice and persistency to meet at once with universal favor. The skiascopic disc is indispensable to the most successful employment of skiascopy, either by the skilled operator or the beginner, and will be found of special value in the detection of malingerers, in the treatment of children, and the feeble-minded, and as a confirmation or refutation of other methods, and will, we believe, when better understood, go far to remove the necessity of mydriatics. Dr. H. V. Wurdemann, of Milwaukee, is the inventor of the best skiascopic disc thus far given to the profession. The instrument consists of a round, hard rubber disc four millimeters in thickness and about thirty centimeters in diameter, in the periphery of which are placed 12 + and 12 — lenses, from .25 to 8 D. of each class. The disc revolves on a pivot connected with a brass rod attached to the wall, or is mounted on a tripod, and can be raised or lowered to suit the height of the patient. By this means the glasses can be rapidly revolved before the eye, thus greatly facilitating and aiding the perfection of the operation. It should belong to the outfit of every ideal oculist.

Graded Tenotomies.—While a great admirer of Stevens, I can but think from my own experience in the operative correction of muscular anomalies, that he has done a vast amount of profitless cutting under the name of “graded tenotomies.” I believe there are three mistakes into which we are likely to fall in this matter: one is too great a dependence upon the exercise of the muscles for correction of faults of decided character; the worse one of indiscriminate cutting for all grades of deviation; and the delusion of trusting to the separation of a few of the central fibers of

the stronger muscles in decided deviations. It is my firm belief that many of Dr. Stevens's cases would have been better and more safely relieved by proper exercise of the weaker muscle on the one hand; and that the pronounced cases of persistent deviation in which the votaries of exclusive calisthenics adhere to the delusive hope of cure by their method, can, on the other hand, be restored alone by an almost complete severance of the aggressive muscle from its bulbar attachment. We do not take this ground without careful study of all the methods, and a good deal of experience, nor do we believe that the last word has been spoken upon any particular phase of this important subject. In any case either of exophoria or esophoria, of over three degrees, in which after months of practice, during which the defective muscles have obtained phenomenal power, the original obliquity has remained unchanged, with no improvement in the functional disorder, we believe, not in tinkering tenotomies, but in an operation that will restore at once the equilibrium.

NASAL AND DENTAL REFLEXES.

BY F. F. CASSEDAY, M. D., MINNEAPOLIS, MINN.

The localization of spinal reflexes is well formulated, but reflexes from the cranial nerves are not as thoroughly understood as could be desired. Some time ago the late Dr. Geo. S. Norton mentioned the fact that he heard a dentist describe a case of glaucoma which had been cured by the extraction of some bad teeth. Migraine from eye-strain is quite common. Suckling reports a case of migraine followed by temporary paralysis of the third nerve.

Some time ago I was consulted by a young lady, twenty-seven years of age. She was large, apparently healthy and well nourished. The history of her case showed that she never had normal menstruation, either in quantity or regularity. She has always been excessively nervous and frequently suffers from hysteria. The occurrence of the hysterical attacks bears no relation to the recurrence of the menses. About three years ago she began to have severe attacks of pain in and around the left eye, accompanied by injection of the sclerotic and gradual loss of vision. The loss of vision has persisted, in varying degrees, for nearly three years. Some months ago I saw her, for the first time, during an attack of plastic iritis, affecting the right eye. There was intense supra-orbital pain. Persistent dilatation and Merc. corr. subdued the inflammatory action to a large extent, but a chronic irritation remained, and relapses were frequent. I found, upon examination, that the young lady had never shed her deciduous incisors, or eye-teeth, in either jaw. The permanent molars had appeared. I believe the permanent incisors and eye-teeth are in the jaw and are responsible for the eye condi-

tions. With the development of the iritis in the right eye there was decided improvement of vision in the left eye. I therefore decided that possibly there may have been an element of hysteria in the loss of vision in the left eye. The media of the left eye were clear, and the ophthalmoscope revealed no structural change.

A case of nasal irritation affecting the voice and hearing has recently come under my observation.

The patient, a veteran of the late war, was sixty-two years of age. There was perforation of the septum in the anterior portion, nearly one-fourth of an inch in diameter, clear cut, smooth, and evidently of long standing. There was no inflammation of septum near the perforation. There was intense inflammation and ulceration of the membrane covering the superior turbinated bones on both sides and the posterior portion of the roof of each nasal cavity. The posterior portion of the septum was very much inflamed. Dried crusts were adherent over the entire ulcerated surface. There was no odor whatever. The closest inspection did not reveal any necrosed bone. There was a constant dropping of thick yellow mucus into the throat. The hoarseness was accompanied by a slight congestion of the vocal bands and a persistent bronchitis affecting the larger tubes. He was very wheezy and suffered much from shortness of breath; does not hear watch with left ear on contact, right ear about three inches; voice hearing very imperfect; both M. T. congested in upper portion; soft palate relaxed and uvula elongated. Local and internal treatment of the nose, throat, and larynx has removed the hoarseness and improved the voice hearing very materially, though the watch hearing shows little or no change for the better. The patient expresses the belief that he will be a boy again before he leaves us.

As our text-books and current literature throw so little light upon reflexes affecting the eye and ear, I have considered these cases worthy of a report.

Phorometers.—While Stevens's phorometer is scientifically constructed, and approximately accurate in practical examinations, it sometimes gives such varying results at the

same sitting that I am constrained to believe the rotation of the base of the prism stimulates successively the oblique and recti muscles, and the result is affected by defects, inco-ordination, or phenomenal susceptibility of any one of these muscles to the stimulus of the revolving prism. I seldom use Stevens's instrument now, and never without testing the result by my own simple device described in a former issue of this journal.

THE SURGERY OF THE NOSE AND NASOPHARYNX.*

BY EDWARD B. HOOKER, M. D., HARTFORD, CONN.

It would be an easy matter to manufacture, from material gathered in text-book and journal, a paper on the surgery of the nose, displaying therein great learning and a comprehensive knowledge of what others have accomplished in this field. But I prefer to state simply what my own experience has taught me, relating honestly what I have done and what I have failed to do, and touching upon the opinions of others only incidentally.

Diseases of the nose and post-nasal cavity, which require surgical measures for their relief, are almost wholly those in which nasal respiration is partially or completely prevented; in other words, conditions in which there is more or less stenosis of one or both nasal fossæ. This stoppage may be caused by:

1. Deformities of the septum.
2. Hypertrophies of the turbinated bodies.
3. Tumors of the nose, both benign and malignant.
4. Growths upon the vault of the pharynx.

Deformities of the Septum.—The septum is the seat of a large portion of the obstruction from which the nose suffers. It is not only altered in shape and position, but is the seat of cartilaginous and bony growths, and it is surprising to note how large a portion of humanity suffers from some form or other of septal abnormality. There are four main

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forms of septal deformity: 1. A simple bend or deflection of the septum, which remains of normal thickness. 2. A bend of septum, rather angular in character generally, with a cartilaginous thickening on the convex side. Frequently, too, there is a thickening and projection on the concave side as well, from the lower portion of the concavity, thus filling up the space gained by the curve of the septum. 3. Slanting or horizontal ridges or shelves on a septum which is in the main straight. 4. Spurs and wing-like projections from the septum. These various septal projections consist of thickened mucous membrane, cartilage or bone, the majority of them being membrane and cartilage. They may stick out from the septum so little as to offer no obstruction to nasal respiration, or they may project across the fossa and press against the inferior or middle turbinated bones, partially or wholly closing the nose and rendering nasal respiration difficult or impossible. But whatever their position or structure, the stenosis, of which they are the cause, can be overcome only by their removal.

When the septum is simply bent or deflected, with little or no thickening, it may sometimes be pressed back into the vertical position and held there by tampons until it becomes fixed in the new position. More commonly, it is necessary to make a horizontal or slanting incision through the septum, or to punch holes in it, before forcing it into the proper position, where it is held by tampons until healing has occurred. But it is by no means uncommon to find such deflection of the septum in connection with fossæ so narrow that, if it is forced into the median line, the space on the former concave side becomes too contracted for proper respiration. Such cases are frequently encountered, and the only proper procedure is then to cut off the projecting convexity, just as if it were a cartilaginous thickening, no matter whether the septum be perforated or not; for a perforation of the septum, in the vast majority of instances, is rather beneficial than harmful. I wish to be correctly understood on this point. If sufficient space can be gained without going through the septum, so much the

better; but if it be necessary to go through in order to secure proper nasal respiration, then perforate without hesitation. In many cases of contracted fossæ in which it is not advisable to straighten the septum, it is possible to cut off the projecting convexity without perforation by exercising great care in operating, cutting completely through the cartilage, but leaving intact the mucous membrane of the other side.

The instruments used for removing septal projections and growths are the nasal drill, saw, knife, and chisel. I have never used the drill, as I have yet to encounter the case which can be more successfully treated by it than by the saw and knife, with which all my work on the septum has been done. But I know that exceedingly good work has been done by the drill, and that it is preferred by many operators. With Bosworth's nasal saw every variety of septal projection and growth can be quickly and effectively removed. The nasal cartilage knife is also most useful in operating upon the cartilaginous portion of the septum. In operating with saw or knife it is an excellent plan to begin cutting at the bottom of the growth, and to work upward, the blood falling to the floor of the nose and thus leaving unobscured the tissues above which remain to be reached. Rapidity of operation is also an important consideration, for no matter how slight the operation, there is always sufficient hæmorrhage to obscure the field of vision and hinder the operator, unless he can work so rapidly as to finish the operation before the nose becomes flooded with blood.

Accuracy in operating is promoted if the section to be removed be first mapped out by the aid of a slender, flexible sound, bent at its end to form a short, blunt hook. The hook should be slipped behind the projection, and the distance from the tip of the nose measured; then the hook being passed to the front of the same, the length of the projection is easily ascertained. This is not necessary when the growth is situated close to the anterior nares, but when it is placed one or two inches, or more, from the front, such measurement is of material assistance. But, in spite of ac-

curacy and rapidity, it very often happens that the flow of blood is so profuse that the nose has to be wiped out every few moments before the operation can be successfully completed. Progress in such cases is necessarily slow, but with perseverance an entirely satisfactory result can be obtained. While the hæmorrhage is always an inconvenience, both to operator and patient, it is seldom so profuse or prolonged as to be dangerous, no matter how copious it may be at the time of operating. It usually substantially ceases in less than an hour, and thereafter exists only as a semi-watery oozing, which a wad of cotton in the anterior nares controls sufficiently to prevent the soiling of the face. It is rarely necessary to tampon the nose, but when this procedure is necessary in order to control the hæmorrhage, nothing is better than tampons of spunk soaked in Monsel's solution, which is non-irritating to the nasal membrane, and the most powerful hæmostatic we can apply.

While on the subject of hæmorrhage, a word concerning chronic nose-bleed may not be out of place. In a very large proportion of cases the blood comes from a ruptured vessel in the septum, close to its anterior extremity, or within half an inch of it. Inspection discloses a minute, round perforation of the mucous membrane, from which several minute, swollen blood-vessels spring, or if no such perforation exists, a cluster of these swollen capillaries is found nevertheless, whose thin and weakened coats give way upon the slightest provocation. I have not yet failed to permanently cure such cases, by touching the swollen vessels with the galvanic cautery, which obliterates them. It may be necessary to make several applications of the cautery, but the result is all that could be desired.

So far as I know, there is but one objection to operations upon the septum such as we have been considering—aside from the dread of anticipation felt by the patient, and the discomfort and occasional pain of the operation itself, which the strongest solution of cocaine will not always subdue; yet, in most instances, if the operator be careful not to nick the skin in front with the edge of his saw, and refrain from

forcibly punching the rear of the nose with its extremity, the patient feels no pain. The one objection is, that the mucous membrane is not always perfectly reproduced upon the denuded surface, and there is a tendency to dryness and formation of scabs at this point. This may, indeed, become a serious annoyance, but it is not to be compared to the discomfort of the former stoppage and may be wholly, or in large part, overcome, even in the worst cases, by persistent use of a vaseline spray, which keeps the surface moist and prevents the formation of crusts and scabs. A general remark may here not be out of place, to the effect that sufferers from chronic nasal catarrh will experience less discomfort and annoyance if they will consider the care of the nose to be like that of the teeth—a part of the daily morning and evening toilet, the exact nature of that care depending, of course, upon the form of catarrh with which they are afflicted.

Hypertrophies of the Turbinated Bodies.—Hypertrophy of the membrane covering the inferior and middle turbinated bones is exceedingly common. The superior turbinated is but seldom affected, and may practically be omitted from consideration. In true hypertrophy there is more than a simple thickening and induration of the membrane, the tissue change having gone so far by increase of connective tissue that the spongy erectile substance is transformed into dense, firm membrane, which contracts but little when sprayed with strong solution of cocaine, and upon which the pressure of a probe leaves but little impression. Such hypertrophies are not greatly reduced by application of carbolic, chromic, acetic, or nitric acid, nor by the galvanic cautery. Amputation by some surgical procedure is necessary. The acids and cautery accomplish much in enlargements less dense and firm; especially is this so in the case of children, who are quite subject to nasal stenosis from turbinated hypertrophy, which is readily reduced by application of the fused crystals of chromic acid.

Hypertrophy of the turbinated bodies may occur at any point, but the rear extremities are particularly liable to be

affected, and the hypertrophy is here apt to be most dense and unyielding. Hypertrophy of the anterior extremity of the middle turbinated is prone to assume a polypoid form of growth, and not infrequently small polypi are found springing from this hypertrophy.

The cold snare is the most effective instrument we possess for the removal of hypertrophies of the turbinated bodies, being capable of great good and little harm. I use Bosworth's snare almost exclusively, because of its adaptability to both rapid and slow work. No operations within the nose are more difficult than snaring. The hypertrophies to be removed are seldom (except at extreme rear) of a shape to be readily grasped and held by the wire, which either fails to encircle them, or else slips off when tightened. It often becomes necessary, therefore, to transfix the mass with a needle and then pass the wire over its point, in order to obtain a firm hold. And when this has been accomplished, it not infrequently happens that the needle is torn out sidewise, leaving a ragged groove in the tissue, instead of cutting off a clean slice. But this is not necessarily an untoward event, for contraction occurs with the healing, and the hypertrophy is somewhat reduced. In snaring the turbinated tissue, it is prudent to cut through it slowly, since it is permeated with blood-vessels and sinuses, some of them of considerable size, and a severe hæmorrhage is possible. When operating upon the anterior extremities of the turbinates there is less danger, but upon the posterior, caution is necessary. These posterior hypertrophies deserve special mention, for they are of common occurrence, liable to be very large and difficult to snare. In color they vary from reddish white to purple, and are apt to assume a shape and surface not unlike a raspberry. When the wire has been successfully passed over one of them, and securely tightened, the further process of amputation should be very slow. I generally occupy from an hour and a half to two hours, tightening the snare every few minutes, and have never met with a case of dangerous hæmorrhage after the

operation, although quite profuse bleeding has occurred after the action of the cocaine had entirely ceased, but never enough to call for interference.

In locating and defining hypertrophies, the flexible hook already described is of great service. An exact knowledge of the length of the fossa upon which one is operating is necessary, and by means of the hook this is obtained. In most adults the distance along the floor of the fossa, from the tip of the nose to the rear of the pharynx, on a level with the floor, is four inches. The distance from the tip to the rear end of the septum and inferior turbinated is $2\frac{3}{4}$ inches. By passing the hook slowly along the turbinated until the hypertrophy is reached, its distance from the tip of the nose is ascertained. The knowledge thus obtained greatly aids the operator in passing the wire over the mass to be removed; for, knowing its distance from the tip of the nose, he can tell when the loop is opposite the growth, and can then endeavor to encircle it with the wire. Post-rhinoscopic examination greatly assists just here, for the fossa is usually so obstructed that little can be seen from the front, so that by touch and posterior rhinoscopy the operator must be largely guided. Should he be careless or inaccurate, it is not impossible that the snare might be passed too far backward and made to encircle the lips of the eustachian orifice. Similarly serious damage might be done here if the platinum knife were pushed back too far, and the mouth of the tube seared by the galvanic cautery. But with a reasonably accurate knowledge of the parts and precision in operation, no accidents will be likely to occur.

Tumors of the Nose.—The most common nasal tumor is the polypus, mucous and fibrous. As my experience with other varieties of tumor is limited, especially so with malignant growths, I shall touch upon the polypus alone.

Nasal polypi are of very frequent occurrence and vary greatly in size, number, and shape. An individual may be afflicted with one only, which partially occludes the nose on one side, or there may be two or three, or both fossæ may be packed so tightly with them that not a particle of air

can be forced through the nose in either direction. I have operated upon a number of cases in which the polypi were packed as solidly as sardines in a box. Again, the tumors may be pedunculated or sessile, and in the forms least amenable to treatment the membrane of a large portion of the fossa takes on a polypoid form of growth, the cavity being blocked by a mass of polypoid tissue, not clearly defined as to shape or attachment. In such cases the middle turbinated body is apt to be greatly enlarged and to hang down like a true polypus, but have no pedunculation, being a thick mass of polypoid tissue filling a large part of the fossa. The more frequent attachments of polypi are the outer walls of the fossa, and the middle turbinated bone, less frequently from the inferior turbinated and the septum. The cold wire snare is the best, and, in fact, the only legitimate instrument with which to remove polypi. The great desideratum is to remove them with the least possible damage to surrounding tissue, for the tendency to reproduction is very great; not, in my opinion, from the stump or root from which the tumor has been cut, but from neighboring tissue inclined to similar outgrowth. And everything which wounds or irritates the adjacent parts tends to excite them to polypus production. Therefore, I am opposed to forceps, which cannot fail to tear and lacerate, to galvanic cautery, either in form of white hot snare, or as an application to the stump after the removal with the cold snare, since such treatment is liable to kindle up either immediate inflammatory action, or a later tendency to polypoid growth. And I believe there is danger that the new growth may assume a more serious form, the mucous reappearing as a fibrous tumor, and possibly even as a sarcomatous one.

When there is but one polypus, or only a few, well separated, with distinctly defined attachments, it is usually not difficult to slip the wire loop over them one by one, and cut them off at the root. Little hæmorrhage follows in the mucous form, and the operation may be rapidly performed. In the fibrous variety it is wise, however, to cut through the pedicle slowly, to avoid possible hæmorrhage. When

the polypi are present in large numbers, squeezed tightly together, their removal becomes difficult and their reproduction probable. Still, with patience they may even then be ultimately extirpated. The operator should not attempt too much at one sitting, and should be very careful not to lacerate the surrounding tissue. The tumors most easily within reach may be removed first, and in a few days others, and so on until all have been taken out. It is surprising how large a number a nose of not unusual size can contain; and the operator is often surprised to find tumors in exactly the situations from which he removed them a few days before, growths higher in the fossa having descended into the places of those previously removed, after the pressure was taken off.

Growths on the Vault of the Pharynx.—The only growths of the post-nasal space to which I shall allude are those springing from the vault, viz., hypertrophy of the pharyngeal tonsil or adenoid vegetations. While the presence of hypertrophied tissue on the vault is largely an affair of childhood and adolescence, being most common between the ages of five and fifteen, I have not infrequently encountered it in persons of adult life, for although it exhibits a tendency to disappear at puberty, it nevertheless fails to do so in a small per cent. of cases. Adenoid vegetations, besides obstructing respiration, secrete an excessive quantity of mucus or muco-pus, cause a change in the quality of the voice, and in a large proportion of cases affect the hearing. The ear becomes involved because the pressure on the eustachian orifices starts up a catarrhal or purulent otitis, or because the changes in the density of the air, on account of the obstruction to nasal respiration, cause the same thing. It is also quite possible that the hypertrophic mass may interfere with the free movements of the levator palati muscles, whose action is essential to proper traction of the tubes.

The destruction or removal of these growths may be accomplished by galvanic cautery, forceps of various kinds, the cold snare, sharp curette and the finger nail. I have

used them all, and obtain the best results by using the instrument best adapted to the case to be treated. With adults, and children above ten or twelve years, I believe local anæsthesia and the cold snare will be most successful. In the case of younger children, general anæsthesia and Hooper's forceps, or the finger nail, have served me best. Both snare and curette may be used through mouth or nose.

And now a few words in conclusion upon nasal surgery in general. It is wise to be conservative on the question of operating. Not every septal irregularity should be cut off, nor every turbinated enlargement amputated; nor should adenoid tissue in the vault always be removed. Unless there is interference with function or actual disease exists, do not operate. Septums need not be exactly alike—they never are—and just because they are not perfectly smooth and straight, it is not necessary to operate. Neither should we attempt to shave off the turbinated bodies to a line, nor plane off the vault just because its surface is not perfectly even. But when the necessity for operation really exists, as it does in so many, many cases, be it upon septum, turbinated body, or vault, the proper surgical procedure thoroughly performed, will, in a vast majority of cases, bring about a result equally gratifying to both physician and patient. Seldom need there be failure to afford relief in cases of imperfect nasal respiration, and the transformation from a condition which necessitates mouth breathing to one which permits free respiration through the channels intended by nature for that purpose, is a very great one. It is the difference between distress and comfort, aye, between disease and health, and its accomplishment is the splendid achievement of nasal surgery. But on the other hand there are some things which fail of achievement. One of the annoying accompaniments of chronic catarrh is the accumulation of thickened secretions in the nose and post-nasal cavity, necessitating hawking and spitting in order to keep the passage clear. This unpleasant symptom often persist-

ently remains after the stenosis has been entirely overcome, and requires other than surgical measures for its relief. Yet, in spite of everything that can be said in detraction, nasal surgery has won for itself a sure, yes, a brilliant position in the field of surgical treatment, and in conservative hands is achieving much for the relief of human suffering.

SIMILIA IN DISEASES OF THE EYE, EAR, NOSE, AND THROAT.*

BY D. A. MACLACHLAN, M. D. ANN ARBOR, MICH.

The results achieved in the study of abnormal conditions of the eye, ear, nose, and throat, during the last two decades, have been truly marvelous. The diagnosis, and mechanical and surgical treatment of these affections, have reached such perfection that therapeutical treatment is in great danger of being lost sight of, and specialists have been led to question whether *similia* affords any real advantage over modern empirical methods. This, together with a firm belief in the efficacy of homœopathic therapeutics when intelligently applied, prompts the writer to offer a few thoughts for the consideration of the Congress.

Were all these disorders distinct local conditions, they might perhaps be safely relegated to the domain of surgery ; but very often they are merely the local expression of a general systemic derangement. As such, the chief means of cure must be sought for in general therapeutic measures, surgery being only an aid. If, then, at such times, we are to rely upon internal medication, the question arises as to what kind of therapeutics will serve us best. We unhesitatingly answer homœopathic therapeutics.

In following up this assertion, however, it is desirable that we all agree upon one conception of what comprises homœopathic therapeutics. To my mind it consists in the application of any remedy according to the law of similars.

*Read before the International Homœopathic Convention, Atlantic City, N. J., June, 1891.

In other words, the pathogenetic effects of the remedy to be applied should correspond to the pathological effects of the disease-producing element. Hence, it follows that a drug capable of curing according to the homœopathic law, must be capable of producing pathogenetic symptoms—if it has not a recognizable dynamic action upon the healthy human body, its use in disease must be empirical.

A moment's reflection will show us that a vast number of so-called homœopathic cures recorded in our literature are not homœopathic at all, as the remedies have been prescribed upon *a posteriori* grounds. For the sake of scientific precision, therefore, it is imperative that we possess clearly defined ideas of homœopathic therapeutics, and credit to *similia* only those cures which legitimately belong to it. With this conception of homœopathic therapeutics, we are now prepared to inquire how and to what extent *similia* can be employed in the treatment of eye, ear, nose, and throat diseases.

We have in our *Materia Medica Pura* three classes of drugs, in relation to the special disorders under consideration: 1. Those having in their pathogenesis only important general symptoms. 2. Those having important general and local symptoms as well. 3. Those having only important local symptoms. The query naturally suggests itself, which of these shall we employ? Shall we insist that only those drugs which produce symptoms in the eye, ear, nose, or throat, shall be used in the treatment of affections of these parts? Certainly not. From the fact before mentioned, that these disorders are frequently merely the local expressions of a general systemic derangement, it seems manifest that the remedy likely to cure may correspond only to the general symptoms of the disease. Again, an affection may be purely local, as in traumatism, and a remedy belonging to Class III may be most likely to be curative.

Hence, the conclusion is reached that, after all, the desideratum is what is so aptly expressed by the phrase, "the totality of the symptoms." This, together with our conception of the law of similars, leads me to incline very

strongly to the opinion that the subjective symptoms are by far the most important guide in the selection of the curative remedy. We may infer a great deal from an objective symptom, but usually it will be found that there are subjective symptoms back of it, and that these furnish the only reliable means of selecting the true similimum.

Having agreed upon what *similia* is, and upon *how* it is to be applied, we will now consider to *what extent* it may be employed in the treatment of eye, ear, nose, and throat affections. No one knows so well as the specialist how impossible it is, in the present state of our Materia Medica, to treat these affections solely by *similia*. Reliance upon internal medication alone would prove disastrous to our patients in a vast number of instances, because of the plain but deplorable fact that our Materia Medica Pura, and our knowledge of how to apply it, are both very imperfect.

It is not necessary to do more than refer to the important place which surgery now holds, and which it will ever hold, in the relief of these disorders. In our day, the special surgical field is well defined, and yet the conscientious homœopath must frequently hesitate before deciding upon the radical measures so invariably adopted by our Old School *confrères*. In many instances, however, his judgment of results and his duty to his patients leave him only the choice of operation. Who, for instance, knowing the relentless character of the disease, and the impotency of our present therapeutics, would deny a patient the benefit of an iridectomy in glaucoma; or the Politzer bag in some intractable middle ear diseases; or the electro-cautery knife or snare in some far-reaching nasal disorders? No one, we think, who has a proper regard for his patient's welfare, or a proper sense of his responsibility as a physician.

A great deal of what my friend and colleague, Dr. Mack, would call "useful treatment," is constantly practiced by specialists, in the way of topical applications. Specialists more often resort to these than do general practitioners, for the reason that they are more often called upon to treat local affections. I, for one, have no apology to offer for

using such measures, for their efficiency has been demonstrated too frequently and too unmistakably to permit me to do otherwise. The use of Atropine in iritis, of Eserine in glaucoma, of boracic acid in otorrhœa, and of cleansing and disinfecting sprays in rhinitis, are familiar examples of this form of treatment. However ardently we may wish to do so, it will be many years before we will be justified in relinquishing what we call "useful treatment," in contradistinction to "curative treatment," by which we mean the restoration of health by the direct dynamic effect of drugs.

It is quite true, as has been so often urged, that so long as we combine "useful treatment" with the administration of the curative remedy—the true *similimum*—we can never tell when the relief has been due to *similia*. No more can we tell, when we prescribe remedies which we are accustomed to consider homœopathic, merely because cures are supposed to have resulted from their administration. The habit of giving remedies upon so-called clinical indications, for instance, is purely empirical, although we may assume that the relief was according to the law of similars.

Of a similar character is the use of a drug because it is a general antidote; or because it is said to correspond to certain types or temperaments. Aurum, or nitric acid for syphilitic iritis, "following the abuse of mercury" and Calcare carb. in the "characteristic scrofulous diathesis," are well-known examples of the foregoing methods. The question, too, might very properly be raised as to the homœopathicity of Silicea, Natrum mur., Carbo veg., and other substances inert in the crude state. To these, some would add all those drugs which have been proved only in a high potency. In short, if we examine our *Materia Medica* critically, we find that a great mass of symptoms, or indications for the use of the various drugs, are simply the accumulated results of observation and experience at best, while many more are only the results of imagination or inference. Nevertheless, most of us, and particularly those who incline to high potencies, prescribe these remedies daily, with never a doubt as to their homœopathicity. This is mere assump-

tion, however, and strictly speaking no one has any right to claim homœopathicity for a prescription based only upon *a posteriori* evidence.

I am not making a plea for a specialist's license or anything of the sort, but am merely trying to show how difficult it is with our present *Materia Medica Pura*, for the specialist or any one else to apply homœopathically very many remedies included in our pharmacopœia. Having mentioned several methods commonly practiced, which are non-homœopathic, it may seem, at first sight, that there is very little left that we may term truly homœopathië. We find, however, that there is in our *Materia Medica* a goodly list of drugs which produce unmodified dynamic effects upon the healthy human body, and which, therefore, may be applied according to *similia*. Aconite, Agaricus, Allium cepa, Amyl, Apis, Arum, Aurum, Arsenicum, Cannabis ind., Cauticum, Cimicifuga, Conium, Euphrasia, Gelsemium, Hepar, Ignatia, Iodine, Jaborandi, Mercurius, Nux, Phosphorus, Physostigma, Pulsatilla, Rhus tox., Ruta, Spigelia, Veratrum, Zincum, etc., are among the well-known drugs of this class.

There are three ways by which we may perfect our *Materia Medica Pura*, in relation to our specialties: 1. By providing new drugs. 2. By adding to the records of former provings. 3. By eliminating errors from the records of former provings. I am aware that this would be an Herculean task. Nevertheless, it must be undertaken if it is ever to be accomplished. Hahnemann and his contemporaries undertook it. Are we less enthusiastic, less intelligent, or less persevering than they? Possessed as we are of the results of past study, observation, and experience, with collateral sciences nearly approaching perfection, with great laboratories at our command, with the purposes and efforts of the scientific world concentrated by great organizations such as this, what may we not undertake and perform?

It has been claimed for homœopathy that it enables prevision. I believe this is true, and this is the exact point at which we must arrive ere we can safely assert that *similia* is

superior to the empirical methods of our Old-School brethren. Hahnemann was able to say, before he had seen a patient suffering from cholera, that camphor was a *similimum* for it, and later history confirms his prevision. Until we aim to reach the ideal, and prescribe only upon *a priori* evidence,—the unmodified dynamic effects of drugs upon the healthy body,—we cannot hope to exercise like prevision, or to realize fully the certain and benign effects of *similia* in special diseases (the latter statement must apply to general diseases as well). When we do reach the ideal, and can confirm our prevision by more or less prompt cure, we will be in position to verify our assumption that *similia* excels or supersedes all other methods of practice, and be ready to dispense with “useful treatment” in all cases amenable to therapeutics.

Twenty years ago, there was very little indisputable evidence of the applicability of *similia* to the affections under consideration. There was very little, if anything, to prove that it was not inferior to empirical methods. Up to this time it was broadly affirmed by numerous homœopaths that these disorders were cured homœopathically, but doubt was thrown upon these statements by the opponents of homœopathy, who asserted that there were mistakes in diagnosis, etc. However, this can no longer be said, for it is now generally admitted that we have in our ranks as skillful diagnosticians and surgeons as can be found in the so-called Regular School.

In this connection, I cannot refrain from paying tribute to the memory of that ardent homœopath, that indefatigable worker, that reliable observer, that skillful surgeon, that true scientist, the late Dr. Geo. S. Norton. His death seems an almost irreparable loss to homœopathy, but he has left us a priceless legacy in his “Ophthalmic Therapeutics,” and the record of his twenty years’ clinical study and experience in the Ophthalmic Hospital. I believe that he and his colleagues have clearly demonstrated the superiority of *similia* in the special diseases, in spite of the fact that they had to begin at the very foundation of their structure. Notwithstanding the great loss we have all sustained in his death,

the work so well begun will still be carried on by his former associates, aided by the various specialists throughout the country, until the goal is finally reached.

Medicine is an *art*, based upon subsidiary sciences, and it is difficult to see how we are to attain to perfection in its practice without a perfect *Materia Medica Pura*. Anatomy, chemistry, histology, and physiology, are more or less exact sciences—why may not our knowledge of unmodified dynamic drug effects be made equally exact? To this end, it should be the aim and purpose of every homœopathic specialist to determine the exact place which *similia* now holds in our therapeutics, and that which it may hereafter hold. While we cannot at once relinquish the various kinds of “useful treatment” which have perforce become part of our art, we can intelligently investigate and record results accomplished by *similia* alone. We can, at least, distinguish between empiricism and homœopathy, and thus slowly, it may be, but surely, bring order and definiteness out of chaos and uncertainty.

The writer has long felt that great benefit would come from associating with the able and distinguished gentlemen who now compose the Committee on Provings one or more representatives of the various specialties which characterize the practice of medicine at the present time. It is scarcely to be presumed that any one man can be expert in all lines of medical study and practice, and it seems reasonable to suppose that experts in anatomy, chemistry, histology, and physiology, who are thus eminently fitted to make “provings,” would be greatly aided by experts in etiology, pathology, diagnosis, and treatment, in distinguishing unmodified dynamic drug effects, which alone can go to make up a reliable *Materia Medica Pura*. The former would be thoroughly versed in the science, the latter in the art, of medicine, and together they could scarcely fail to produce the most perfect and potent weapon for defense and warfare against disease. No one will deny that the crying need of to-day is the prevention and elimination of errors from our *Materia Medica*, and to the writer there seems no more feasible or efficient plan than the one just mentioned.

BENEFITS DERIVED FROM CLIMATE IN TREATMENT OF THROAT TROUBLES.

BY G. T. STEWART, A. M., M. D., CHIEF OF STAFF, HOM. HOSP., W. I.

The cause of catarrhal troubles is not necessary to this article, as it is intended merely as an addition to their treatment by climatology, and as such I give my experience in Mexico and California.

Five years were devoted to the treatment of the throat there, with the happiest results, and there is no doubt in my mind that my success was due to the benefit derived from the locality.

In the State of Sonora, Mexico, where the atmosphere is dry, hot, and for the most part enervating, I found that by using ordinary care in washing out catarrhal discharges that all my cases improved. If that country were really in a more advanced state, a patient would find it a charming place to live in; but, as the hotels are poor, one would be disappointed and unwilling to remain there long. Besides, physicians are scarce—in fact not a homœopath in the whole State—so I would not advise any one to go there.

In Southern California, where all is nearly perfect, you can find everything to suit the fastidious mind, as to living and physicians. There are about forty homœopathic physicians in Los Angeles, and among them good throat specialists, both from the New York and the Vienna schools. It is here that the mucous membrane of the throat takes on new life, and, with the assistance of the spray, casts off its disease as a man does his cares. The clearness of the atmosphere,

its perfect sunlight, and the absence of fog make this section of the country all the physician or patient can ask for. In my experiments with climate I wandered through valleys and made trips up mountains, to learn from my patients and my friends their experiences. In the Colorado Desert, about five hours' ride on the Southern Pacific Railroad from Los Angeles, is a little station known as Indio. This is nothing more than an eating station in an oasis of the Colorado Desert, a fertile plain, twenty miles long and five miles wide, which is remarkable for its curative atmosphere. Tuberculous throat troubles are benefited amazingly, and in fact every lung or throat trouble seems to be improved in the shortest space of time imaginable. Upon looking into the properties of the atmosphere, it was found to be charged with iodine; litmus paper left out on the porch was affected by it during the night, changing its color completely. This interesting spot in the desert is about 160 feet below the level of the sea, and the property of the atmosphere is probably due to the salt marshes about sixteen miles farther down the oasis, where the iodine is liberated by a subterranean river, which is lost in a cañon formed by two ranges of mountains, the outlet or inlet of the desert. It was this property which led me to treat all my cases in Los Angeles with iodine, both by applying the same with a brush, by spraying, and by vaporizing. There has never been a doubt in my mind but that all my cures were due to this agent and to the climate with its atmosphere, which was the same as to temperature and wind as at Indio. The treatment was so simple that it was marvelous to see the splendid results obtained—for syphilitic complications were amenable to the same throat treatment with the indicated remedy. After a few treatments you could see the improvement, and this was never retarded, but kept right on, until one could pronounce a patient really cured. Those treated were not Eastern people only, but native-born, and the results obtained by the use of the iodine and the atmosphere were as beneficial to the one as to the other. From this fact I drew the conclusion that a patient would receive

as great benefit by the iodine treatment in Los Angeles as he would by living in the Desert of Colorado, and at the same time have all those comforts which he could not obtain there. Of all places and climates my preference is for Southern California, but above all the San Gabriel and Los Angeles valleys, although the valley of the Oji river, in Ventura County, is nearly as remarkable in a different way. The springs which one finds up among the mountains inclosing this valley certainly assist the tuberculous cases, and I am sorry not to be able to give analyses, as they might prove very interesting. At Santa Barbara we find another climate which may assist you in your treatment, but here you are on the Pacific coast, and I cannot advise any one to tempt Providence by remaining at any point along the same. For the same reason San Diego is really dangerous for some patients, as I am now speaking of tuberculous cases and those complicated with heart troubles. Another point in regard to that city is the fact that there is a warm and cool side of the street, which is often spoken of by those suffering from lung troubles. There are really two waves of air, so to speak, one cold and the other warm, crossing one another, just as streets cross, and most marked where streets do cross. Taking all things into consideration, it is easy for me to recommend any Southern California town which escapes the fresh ocean breezes, for throat or lung troubles.

A SPONTANEOUS EXTRACTION OF A CATARACTOUS LENS.

BY JOSEPH RODES, M. D., SAN DIEGO, CAL.

A primary iridectomy was performed, through a Von Graefe linear section, for senile cataract.

The case proceeded, without any inflammatory symptoms, to a complete healing. About a month afterward, being out of town for some time, my assistant wrote me that something had gone wrong with Mr. ——'s operated eye. I returned after several days, and found an anterior dislocation of the lens, and more, it was pressing outward and causing bulging of the cicatrix. My first thought was to make a secondary operation, but I refrained, thinking it was a good case to watch to see what nature would do under the circumstances. I was rewarded.

Every few days showed a steady yielding of the scar to the intra-ocular pressure behind the lens. After a little, the lens edge could be distinctly seen, projecting freely through the wound, quite firm and perfect in shape. At this time the patient complained a great deal of "something being in his eye." To relieve these symptoms, the lid was held quiet by strips of gelatole plaster. During this, Nature's extraction, there was no pain, nor were there any inflammatory symptoms. Neither was any of the aqueous humor lost from beginning to end. At first the transit of the lens, from its periphery to its equator, formed an ever tightening wedge like a plug ; and in its transit from its equator to the after-coming peripheral border nature seemed not to force it out any quicker than she could close up after it. Of course, during the latter part of the time, I had to protect the lens from external manipulation to carry out my experiment.

An opaque capsule necessitated a discission, which was performed, giving the patient very good vision.

QUIET IRITIS.

BY E. G. RUST, M. D., WELLINGTON, O.

There are occasionally cases of iritis in which the attacks, often of such severity as to lead to extensive adhesions and great deterioration of sight, are not at the invasion or at any time during the course of the disease accompanied by the typical features of inflammation.

In mild cases of simple plastic iritis, it is not uncommon for pain to be slight or entirely absent, but ordinarily iritis is manifested by the characteristic frontal pain. So prominent a symptom is pain, with its nocturnal exacerbation, that authors and instructors, by their frequent and emphatic direction of the student's attention to this symptom, often cause the general practitioner to make error in diagnosing even severe cases of iritis, because of the quiet or painless character of the disease. Consequently these patients do not seek the relief of the specialist until the vision is to a great extent permanently destroyed.

Hutchinson has reported several cases of quiet iritis.

The most frequent cause of the iritis in his cases was sympathetic inflammation, congenital syphilis, and arthritic tendency. He found quiet iritis to be very rare in the iritis of acquired syphilis, as also in ordinary rheumatic, traumatic or herpetic forms of the disease.

I will briefly report four cases of quiet iritis which have come under my observation.

CASE I.—Mrs. K., aged sixty-seven years, applied to me for treatment about four years ago. Her eye had given her much annoyance, in regard to impaired vision, for about one week. There was no pain whatever. Attempted dilatation revealed a

severe case of quiet iritis. This patient was cured after three months' treatment.

CASE II.—Mrs. H., aged seventy years, case of acquired syphilis. Had very severe and painful syphilitic iritis in right eye. This attack occurred eighteen months ago. One year after first attack was called to treat her for a no less severe though painless attack in the left eye.

There exists at present a slight pupillary adhesion in the last affected eye.

CASE III.—Mrs. I., aged seventy-one years. This patient had a paralysis of right eye and right side of face six months previous to attack of iritis. I was called to consult with her physician in regard to a dimness of vision, supposed to result from cerebral disturbance. Careful inquiry, of both patient and attendants, failed to elicit any symptoms of pain.

By examination discovered such extensive results of exudation as to make it impossible for patient to see sufficiently well to go about the room or to distinguish anything.

This patient called at my office a few days since, and is now able to see fairly well and go about unattended.

CASE IV.—Is that of a lady aged eighty years. She has senile cataract forming.

Six years ago vision in right eye was destroyed by an attack of exceedingly painful iritis. I was called three months ago to treat her for a similar affection in the left eye.

This attack was of great severity, but absolutely quiet in character, being practically unattended by congestion or photophobia. This case is still under observation.

The persons in whom the cases occurred which I have reported are all women and all aged, my experience with marked cases of quiet iritis being limited to these four cases.

Sex and age, however, have, according to Hutchinson, little or no effect in modifying the severity of symptoms accompanying iritis. Another fact, which his report shows, is that in the same person two attacks of iritis may occur, one being accompanied by violent inflammatory symptoms and the other being perfectly quiet throughout. This has been the fact in cases Nos. 2 and 4 which I report.

CONGENITAL CORECTOPIA.

BY F. F. CASSEDAY, M.D., MINNEAPOLIS, MINN.

Geo. H. Welch, white, aged forty-five years, presented himself for examination of eyes May 29, 1891. He is a man of medium size, has always enjoyed excellent health, is temperate, and has the appearance of being healthy and well nourished. He is married and has two children. The left eye was of ordinary size, the cornea was clear and the iris of a light-blue color. The pupil, instead of being in the center of the iris, was in the lower and slightly to the nasal side, and extended from the center downward and inward to the extreme edge of the iris.

From the lower edge of the iris, and from the bottom of the pupillary area, there springs a fungus growth, the exact shape of a mushroom.

The right eye presented an atrophied appearance, the cornea being very contracted, the pupil completely obliterated, and the iris drawn to a point in the center, as if with a puckering string. In the lower portion of the iris and evidently adherent to its posterior surface, was a calcified object about the size of a small pea, pearly white in color.

There was vision for light and a distinct recognition of moving objects with the right eye, while with the left, with the pupil dilated, there was excellent vision at all distances. With the pupil in a normal condition, vision was very cloudy, owing to the obstruction to light caused by the fungus growth.

The ophthalmoscope revealed a normal disc and media in left eye.

Both eyes have been in this condition since birth.

The patient's son, a boy ten years of age, has a left eye presenting the same appearance as that of the father. The

son's right eye is normal. Close questioning did not show such a pupil in the father or grandfather, though it is very likely that such a condition has existed in several previous generations, despite the fact that the patient cannot recall it.

This case is really not coloboma, as there is not so much a slit in the iris as an eccentric position of the pupil, combined with an eccentric position of the lens.

This adds another case to the many curious congenital anomalies of the iris. I might add that there is no cleft of the eyelids, congenital cataract, microphthalmos, nystagmus or cleft palate in this case, as is usually the case in coloboma, and furthermore, the deficiency of the iris is confined to one eye in both father and son.

RETROBULBAR NEURITIS.

BY CHARLES DEADY, M. D., AND H. H. CRIPPEN, M. D.

The purpose of this paper is to give a careful exposition of the present status of the knowledge pertaining to retrobulbar neuritis, with regard to its pathology, etiology, symptomatology, and prognosis, with certain suggestions as to treatment.

Von Graefe was the first to introduce the term retrobulbar neuritis into ophthalmology, with the intention of including under this term those inflammatory affections of the optic nerve which, independent of any intra-cranial alteration, attack the trunk of the nerve at a point so distant from its intra-ocular expansion as to give rise to no marked ophthalmoscopic symptoms; the visual disturbance appearing first (in the form of a central scotoma) and the atrophy of the optic papilla later. This beginning was greatly enlarged upon by Leber, Michel, Liebreich, and others, who formed tolerably correct conjectures as to the true nature of the origin of the central scotoma in an atrophy of the axial fibers.

The first pathological data, however, were furnished by Samelsohn (*Revue Clinique d'Oculistique*, 1884, and *Berlin Klin. Wochs.*) from the autopsy of a man, dying from an atheromatous dilatation of the heart, after having long presented the symptoms of retrobulbar neuritis. In brief, the *post-mortem* revealed the existence of an interstitial neuritis, with considerable proliferation of connective tissue. This neuritis attained its greatest intensity at the optic foramina and appeared to have had its beginning at that point.

From here, it exactly followed the axis of the optic nerves, but in proportion as it approached the papillæ the degeneration became more and more lateral. This disposition becomes a perfect explanation of the course of the fibers supplied to the macula, and of the decoloration of the internal side of the papilla when the disease arrives at a certain degree.

This single case, by itself, is certainly not sufficient to establish detailed anatomical descriptions. Fortunately, however, Samelsohn's observation has been corroborated and completed by autopsies reported by Nettleship and Walter Edmunds, by Bunge, by Uhthoff, by Sachs, and, notably, by Vossius.

With regard to pathological details, the observation related by Samelsohn, although the first case examined during life, and subjected to subsequent anatomical demonstration, may be considered as a characteristic type of this disease.

The patient, a man of sixty-three years, presented, with a high degree of double amblyopia, an ophthalmoscopic image that was perfectly normal. The peripheral limit of the visual field, for white and for colors, was also absolutely normal, but there existed a relative scotoma, for red and green, of an extent of nearly 8 degrees. The complete suppression of the use of alcoholic drinks and of tobacco caused no amelioration ; on the contrary the central scotoma extended and also became manifest for blue. The limits of each papilla appeared covered by a slight halo, and the patient complained of considerable cephalalgia. After two years, although the peripheral limit of the field of vision remained normal, the central scotoma became absolute, even for white, and the patient could not count fingers beyond eighteen feet. The lateral halves of the optic discs then offered a slight whitish decoloration, the papillary border in this direction always remaining slightly veiled.

A cardiac affection having caused death shortly after, the optic nerves were removed with the chiasm and the optic tracts for one part, and with the posterior hemisphere of each eye at the anterior extremity, to be submitted to examination. There was no trace of hydropsy of the intervaginal spaces. After hardening in Müller's fluid, the sections, made through the nerve in the region

corresponding to the optic canal, presented notable modifications, with regard to the microscopic appearance. There was diminution of the nerve trunk, which also presented, in place of a cylindrical form, a very marked flattening from above downward, giving it the appearance of a ribbon. The sections nearest the cranium offered a disposition of a biscuit shape, while the thinning of the nerve presented its maximum at the middle of its course.

Simple inspection, with the naked eye, of sections through the optic nerve, at different points of its course, gave valuable information. While sections taken behind the optic canal, toward the chiasm, appeared uniformly of the well known yellowish-green color, due to the maceration in Müller's fluid, sections obtained in the region of the canal only offered this normal coloration in the peripheral zone; the central part, oblong, being of a gray

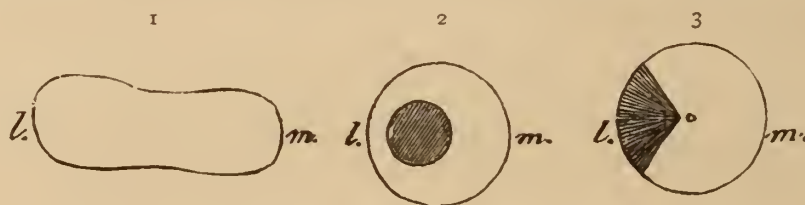


FIG. 1.

1. Region of the canal. 2. Portion behind the entrance of the central vessels.
3. Part containing these vessels.

gelatinous tint. This central portion was sharply marked by its transparency. This degenerative process, shown by the partial grayish discoloration, occupied the whole length of the nerve trunk, but offered a different situation according to the points observed. Thus, in the vicinity of the bulbus oculi, the grayish degeneration presented a triangular form, its base being confused with the lateral surface of the nerve, and its apex situated near the central vessels. A section, obtained from the middle of the intra-orbital course of the nerve, shows the degenerated part as a disc, surrounded by a ring of normal nerve tissue, narrower on the lateral side than on the median (Fig. 1).*

On microscopical examination it is seen in sections taken from the region of the optic canal (Fig. 2) that the peripheral ring (*a*)

* The microscopical sections and a portion of the anatomical descriptions have been very kindly furnished from the proof sheets of "A Treatise on Ophthalmology." By L. de Wecker, and J. Masselon. Translated from the French and edited by H. H. Crippen, M. D.

of nerve substance offers no alteration. The connective-tissue septa of this zone show, as to form and arrangement, the normal aspect, and present, in carmine preparations, the well known red striæ, of varying thickness, which surround the colorless and finely granular nerve fasciculi. With regard to the central zone of the section, it presents to a low magnifying power a diffuse deep-red color, with large striations, in which it is scarcely possible to recognize an arrangement in meshes. It is only toward the edges of this zone that it may be seen that the septa have been deviated and dragged on by the retraction. Greater enlargement permits recognition in most places of the primitive arrangement of the septa, between which the nerve substance has been de-

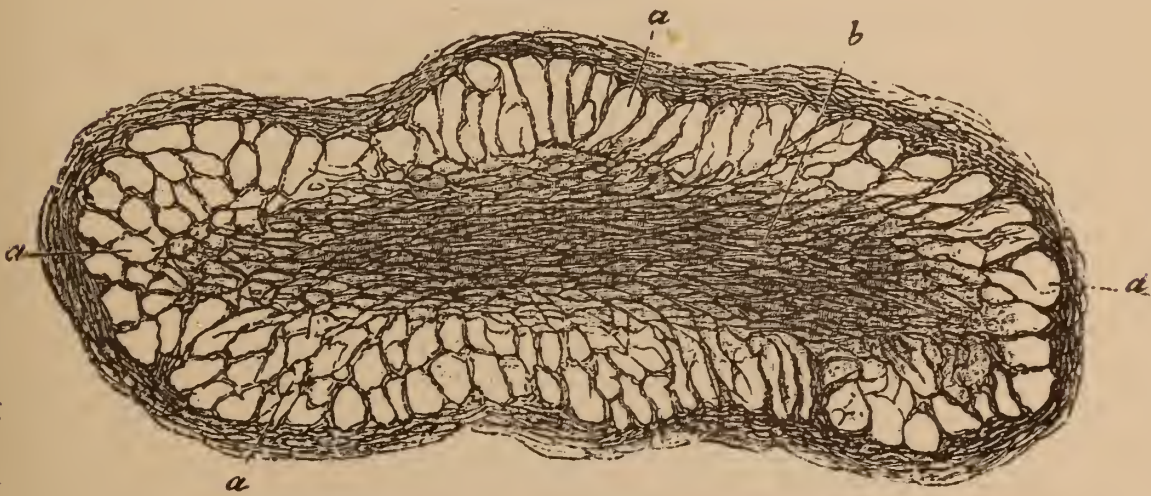


FIG. 2.

stroyed. In some points a finely granular design recalls vestiges of the nerve masses, and there is also found a fibrillar tissue of irregular arrangement. The trabeculæ of connective tissue are excessively thick (Fig. 3), particularly in the points where two or three fasciculi meet at an angle. In such places there are formed veritable nodes, in which is usually placed a vessel filled with blood. These hypertrophied fasciculi show a grossly striated structure and an abundant increase of nuclei. In the reduced meshes, circumscribed by these trabeculæ, is seen, besides a very thin tissue, a multiplication of nuclei as a whole, permitting the recognition of an augmentation of the neuroglia. Toward the zone of transition are first met atrophied nerve fibers (as in gray atrophy), which are mingled with normal nerve fibers. In the atrophied part of the nerve, the vessels are greatly increased in number, especially in the points where the connective tissue is

particularly abundant. The increase of the nuclei of the adventitia and especially of the adventitial sheath, discloses the participation of the vascular wall in the inflammatory processes. At certain points (*a*, Fig. 3) may be recognized an enlargement of the adventitial lymphatic sheath.

When the optic nerve has passed the canalicular region, it is recognized, aside from the change of place of the affected zone

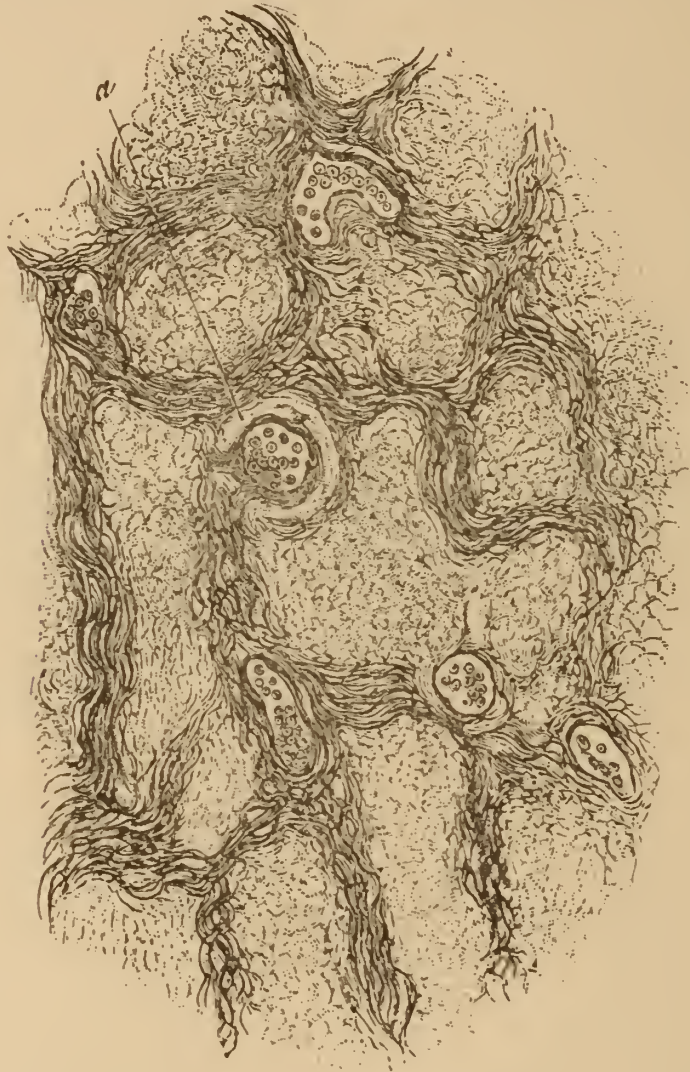


FIG. 3.

already noted, that the interstitial inflammatory process tends to diminish more and more, and that the microscopical aspect progressively approaches that of ordinary gray atrophy in proportion as it draws near the bulbus oculi. Thus in Fig. 4, representing a section taken near the optic canal, the arrangement of the septa is found wholly preserved, in the central zone intensely colored with red. The reduction of the meshes and the thickening of the

connective-tissue trabeculæ, as well as the increase of the nuclei and of the vessels, always demonstrates, again, the presence of an interstitial neuritic process, but notably lessened as to intensity. Besides, the image of gray atrophy of the nerve fasciculi begins to appear plainer and is gradually more marked in going away from the optic canal. The interruption of conductivity in consequence of the destruction of the nerve substance in the optic canal should probably be accused as the cause of this gray atrophy.

The circular atrophic zone, at first circular, at its exit from the optic canal, approaches by degrees to the lateral side (2, Fig. 1).

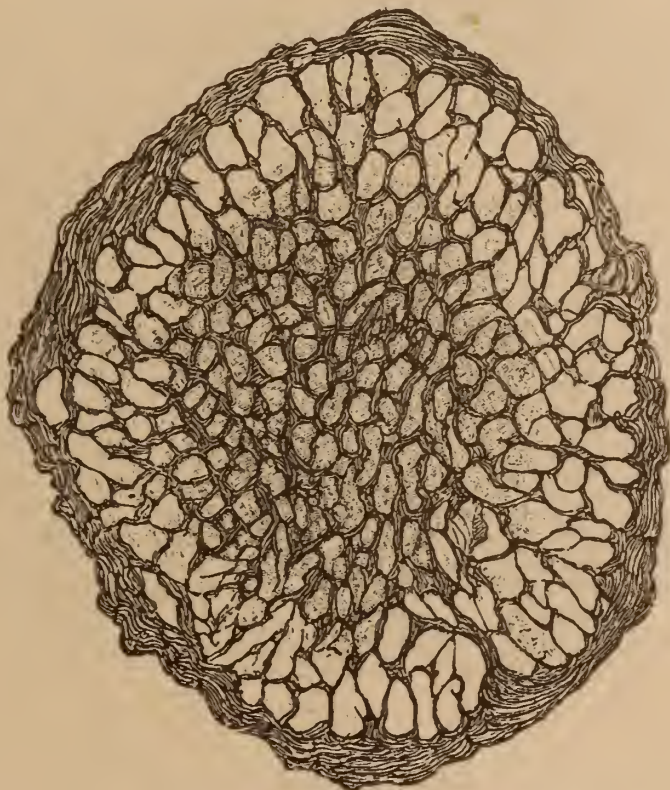


FIG. 4.

It is only in the vicinity of the entrance of the central vein (which precedes the penetration of the artery) that the atrophic focus arrives at the pial sheath, as shown in Fig. 5, where the section has slightly involved the vein. The plaque of connective tissue, which carries the central vessels by penetrating the nerve by inversion, has the effect of pushing back the septa of the affected zone and of packing them toward the periphery. From this it results that the atrophic portion, at first circular, takes an oval form, with the long axis vertical, and finally that of a cone, as shown in the schematic illustration (3, Fig. 1). From these researches, in this par-

ticularly favorable case, valuable information on the course of the nerve fibers may be gathered.

It was noted above that the microscopic image gradually approached that of gray atrophy, in proportion as points near the bulbus oculi were examined. However, there existed in the right optic nerve, after penetration of the central vessels and at a restricted point, a sudden recrudescence of the interstitial inflammatory process (Fig. 6), with alterations similar to those described



FIG. 5.

for the portion comprised in the optic canal, as seen immediately from the similarity in the appearance of Figs. 2 and 6.

In a section from the papilla, taken from the right side, is seen an atrophic cone very clearly marked, its base occupying the greater part of the lateral half, while the apex nearly attains the central vein. In this half the meshes of the lamina cribrosa are notably more contracted, and the very thin nerve fasciculi that they contain present a pronounced atrophy. The left optic nerve was utilized by preference for the longitudinal sections, which confirm the course followed by the atrophic process. These sections show in a still more definite manner the increase of the interstitial connective tissue, while to the augmentation of the longi-

tudinal fasciculi is added that of the transverse trabeculæ. The enormous development of the vessels was especially rendered manifest. A longitudinal section through the papilla (Fig. 7) demonstrated clearly that, while the median half (to the right, in the illustration) had a normal aspect, the lateral half offered a marked shortening of the nerve fasciculi, with thickening of the connective fasciculi. Besides this, the transverse septa, in place of passing perpendicularly to the longitudinal fasciculi, all affected an oblique direction, as if a traction had acted, posteriorly, on the

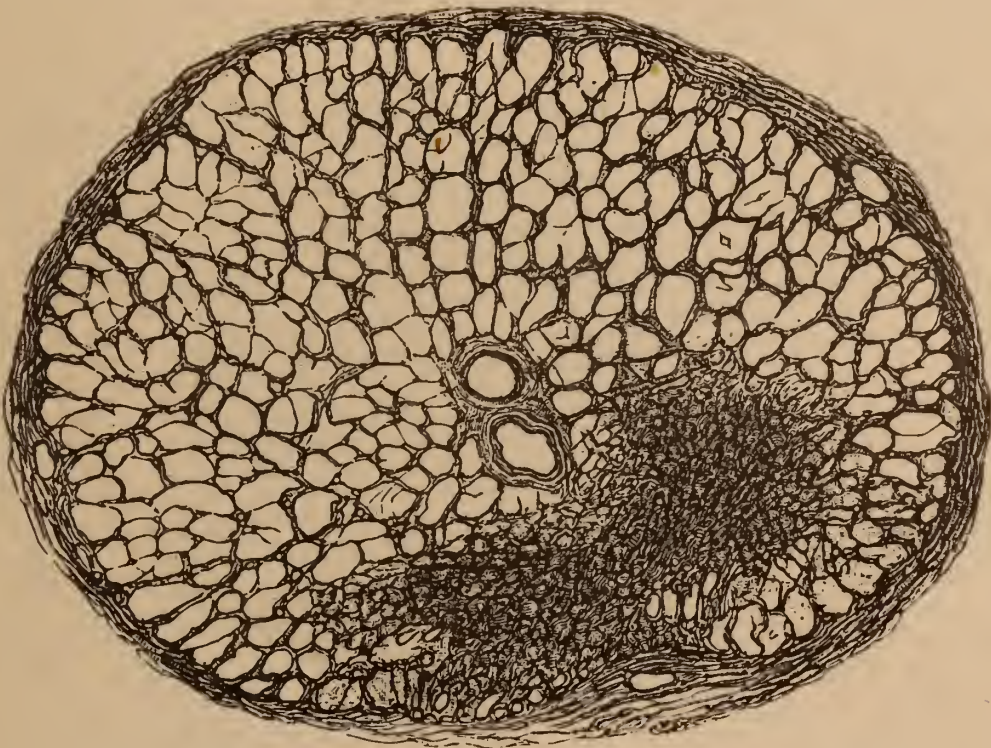


FIG. 6.

longitudinal fasciculi to draw the transverse fibers, having a fixed point on the pial sheath.

With regard to the retina, a very striking alteration was observed on the temporal side. Besides a marked thinning, the retinal layer took a visible stain from carmine, while osmium only darkened it feebly. On the contrary, the use of hæmatoxylin did not permit the recognition of any increase in the nuclei. Finally, no trace could be found of the ganglionic layer. Unfortunately the remainder of the retina hardened in folds and the alterations were not followed to the macula lutea.

A confirmation of this excellent description given by

Samelsohn was soon after attempted by Nettleship and Walter Edmunds, but unfortunately the optic nerves were only removed in part, and their pathological observations relate alone to sections taken from the course of the nerve after the entrance of the central vessels.

There is another case, however, related by Vossius, in which the results of the pathological examination are very important, for the sections were extended as far as the optic tracts. The patient, a man of forty-eight years, not addicted to excess in alcoholic liquors, though abusing

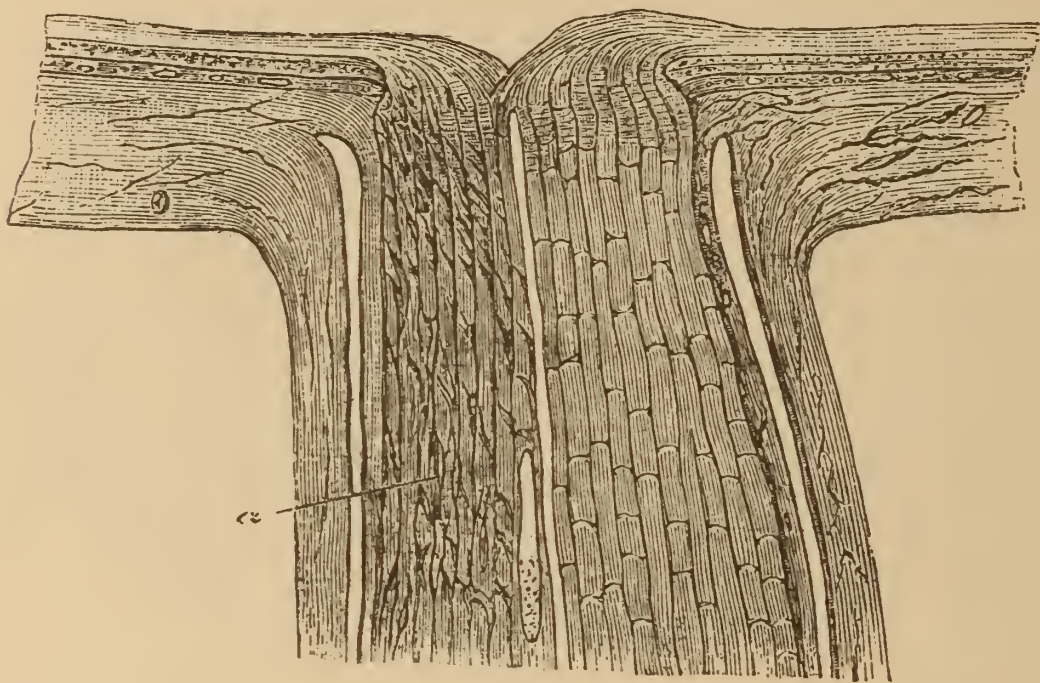


FIG. 7.

them a little, presented with a history of diminished vision, dating back three years, which did not permit reading. With a central scotoma there was found a high degree of amblyopia ($R.V.=\frac{1}{10}$, $L.V.=\frac{1}{8}$). No ophthalmoscopic symptoms were present. The patient afterward succumbing to cerebral softening, a minute anatomical examination was made. For this purpose the chiasm, with the optic tracts, was removed, as well as the optic nerves with the posterior parts of each eyeball. In this case, as in that of Samelsohn, the retina was found so much folded that only the parts nearest the optic papilla could be utilized.

On both sides, the optic nerves, very near the bulbus, presented in section, not rounded, but flattened (Fig. 8), to the external side and below, the preparation forming an oblique oval. The reduction of the diameter of the optic nerve, which normally measures 4 millimeters, was thus particularly marked in the oblique direction downward and toward the temporal side, where it was found to be only 2.5 millimeters. To this flattening corresponded a white sector, occupying the infero-external quadrant and sharply marked off from the contiguous normal regions stained green by the chromic acid. This white sector had its base contiguous to the sheath of the nerves and its apex near the central vessels. The external sheath was wrinkled and the inter-vaginal space appeared markedly relaxed.

At 8 millimeters from the ocular globe the form of the white part was no longer that of a sector, but limited, at the periphery,

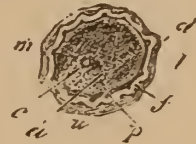


FIG. 8.

Section through the left optic nerve, very near the bulbus oculi. Magnified $2/1$. *l*, lateral border; *m*, median; *o*, superior; *u*, inferior; *a*, clear atrophic portion, situated in the infero-external quadrant, the point directed toward the central vessels (*c*) and the base toward the pial sheath (*p*); *d*, dural sheath; *f*, enlarged inter-vaginal space.

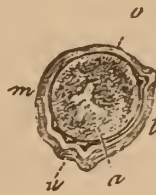


FIG. 9.

Section through the left optic nerve, at 8 millimeters behind the bulbus. Magnified $2/1$. Letters as in the preceding. The clear part represents the atrophic focus.

by a large base (Fig. 9), sending some prolongations toward the middle, where is seen the central artery. The nerve, somewhat reduced in all directions, formed on section a slightly oval shape vertically elongated.

At 16 millimeters from the bulbus, in front of the entrance of the central vessels, the section, reduced in all its diameters, offered a rounded form (Fig. 10). The white part approached again the form of a cone, but its base was placed more to the center, while its point reached the pial sheath. The cone was still situated in the infero-external quadrant.

In a section at 24 millimeters from the bulbus (Fig. 11), the clear part is found placed more in the temporal half and approached to a semilunar form. It was especially surrounded by a normal zone, particularly extended on the median side. In this

section, the transverse diameter was notably retracted, so that the form was that of an oval with its long axis vertical.

A section of the optic nerve behind the optic foramen, deprived here of the dural sheath and presenting the form of an oval flattened from above downward (Fig. 12), showed toward the center a clear oval zone, transversely elongated, which almost touched the edge of the section above and to the temporal side.

At about 1 centimeter from the chiasm (Fig. 13), appeared, in the center of the section, a whitish fusiform part. From the mid-

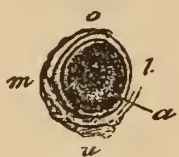


FIG. 10.

Section through the left optic nerve at 16 millimeters behind the globe. Magnified 2/1. Letters as in the preceding.



FIG. 11.

Section through the left optic nerve at 24 millimeters behind the bulbus. Magnified 2/1. Letters as in the preceding.

dle of the upper edge of the section, were directed obliquely inward, departing from the white part, striæ of a clear yellow which, on arriving at the center of the median border, ramify in a dendritic manner. These radiating ramifications are only the connective tissue septa of the optic nerve.

In sections of the anterior part of the chiasm may be recognized along the dorsal edge the course of a clear and narrow stria,

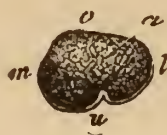


FIG. 12.

Section through the left optic nerve, just behind the optic canal. Magnified 2/1. Letters as in preceding.



FIG. 13.

Section through the left optic nerve, at about 1 centimeter in front of the chiasm. The clear part in the center is the atrophic focus and the striæ are the thickened septa.

belonging to the *commissura ansata* of Hannover, above which is noted a yellowish zone having almost the form of a bean (Fig. 14), its convex border corresponding to the dorsum of the chiasm and the concave border nearly at the center of the chiasm. Striæ are also seen. In the region of the *recessus opticus* (Fig. 15) the limiting gray layer, superior and inferior, was sharply marked from the mass proper of the chiasm, which contained, lying im-

mediately against this layer, a clear, yellowish stria of biscuit form, with enlargements exactly placed in the center of the section.

In the commencement of the right tractus appeared, in its supero-external quadrant, a clear part, obliquely directed from the superior border toward the middle of the section ; besides, a



FIG. 14.

Frontal section through the chiasm, in its anterior part. Magnified 2/1. *R*, right half; *L*, left half; *d*, a white stria of finely granular and fibrillar substance and below this the atrophic focus (*a*); *P*, pial covering of the ventricular surface with the commencement of the hypophysis.



FIG. 15.

Frontal section through the posterior half of the chiasm. Magnified 2/1. *R.o*, recessus opticus; *a*, atrophic part; *R* and *L*, right and left.

clear yellow stria extended along the whole of the inferior edge (Fig. 16, *a* and *b*). The latter stria corresponded thus to the crossed fasciculus of the tractus, the former to the non-crossed fasciculus.

In the microscopical description Vossius uses the princi-



FIG. 16.

Frontal section through the *tractus opticus*. Magnified 2/1. *T.c*, tuber cinereum with large vacuoles; *T.o*, tractus opticus; *a*, *b*, atrophied parts, placed near the upper and lower edges; *c*, normal substance.

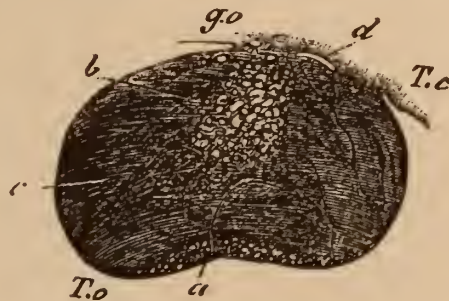


FIG. 17.

Section through the right tractus, corresponding to the preceding illustration. Magnified 6/1. *a*, *b*, atrophic foci; *c*, normal substance; *d*, section of a large vessel near the tuber cinereum (*T.c*); *g.o*, optic ganglion with large vacuoles; *T.o*, optic tract.

pal sections already given, thus, the transverse section of the tractus in Fig. 17 corresponds to Fig. 16.

It presented in the part contiguous to the *tuber cinereum* a notable anomaly, the vessels being placed in large cavities in the form of vacuoles. The walls of the vessels were a little thickened,

those of the veins normal. Amyloid corpuscles of varied size and form appeared in abundance. The clear part of the upper portion of the tractus, and that which follows its inferior border, took an intense uniform staining with carmine and hæmatoxylin. These two zones presented a fibrillar tissue without augmentation of the nuclei. There existed no normal nerve fibers, these structures having been destroyed by atrophy. Sections taken from the posterior half of the chiasm, corresponding to Fig. 15, also presented only the clear stria, and showed no trace of normal nerve fibers. In sections situated more in front of the chiasm, corresponding to Fig. 14, it was seen in the clear portion that the transverse tracts passed from one side to the other in the form of commissures; very fine-colored fibers, consequently atrophied,

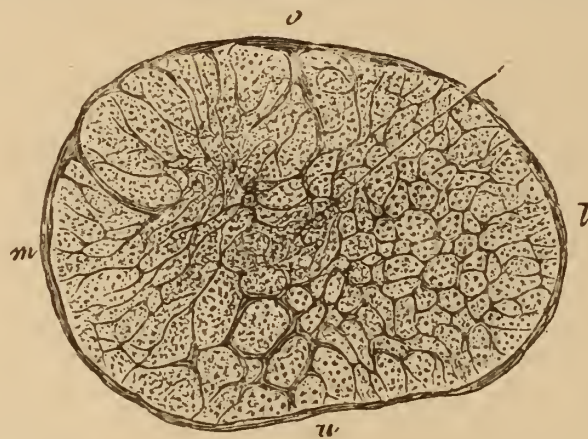


FIG. 18.

Section through the left optic nerve, exactly behind the optic foramen.
Magnified 10/1. Letters as in the corresponding illustration.

alternating with groups of colorless and normal fibers. Between the atrophic fibers were placed some isolated sections of vessels, the largest of which offered especially thick walls. In the intracranial part of the trunk of the optic nerve, placed immediately in front of the chiasm, the atrophic focus is found in the center (Fig. 13), and receives numerous prolongations proceeding from the pia and inclosing amylaceous corpuscles in abundance. From the upper border there was directed toward the center of the section a large stria of connective tissue traversed by pigmented cells, which contained, aside from vessels of some caliber, a remarkable number of amylaceous corpuscles.

In a section taken from very near the optic canal the clear central zone presented a nucleolar infiltration so dense (Fig. 18) that it was only in places that an internucleolar substance was visible.

Nerve fibers were nowhere demonstrable. The septa were found drawn irregularly, even outside the atrophic part offering a zone of transition in which could be recognized both atrophied and normal fibers. In the nodes of intersection of several septa were



FIG. 19.

Section through the optic nerve corresponding to Fig. 11. Magnified 7/1.

often seen many small divided vessels, with thickened walls, that were rich in nuclei. Amyloid corpuscles were found in the atrophic focus, as well as in the periphery of the sections, near the septa and in the spaces of the meshes.

The microscopic image of the clear zone in the nerve trunk

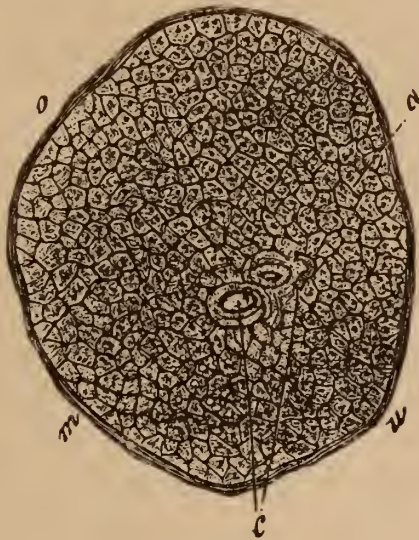


FIG. 20.

Section through the left optic nerve corresponding to Fig. 8. Magnified 10/1.

constantly demonstrated, toward the papilla, the same peculiarities (Figs. 19 and 20). The atrophied portion corresponded, very near the bulbus, to almost a quarter of the section.

A transverse section through the papilla and the intrascleral

portion of the nerve (Figs. 21 and 22), permitted the demonstration that, also in the external third, the nerve substance was completely atrophied and replaced by a tissue very rich in nuclei, in which the presence of numerous capillaries could also be shown. The corresponding part of the retina was also atrophied; the ganglionic layer in the region contiguous to the papilla appeared incon-



FIG. 21.

Horizontal section through the papilla and posterior half of the bulbus. Magnified 2/1. *o*, optic nerve, scleral part; *a*, atrophic zone; *p*, papilla; *r*, retina; *ch*, choroid; *s*, sclerotic; *l*, lateral border; *m*, median border.

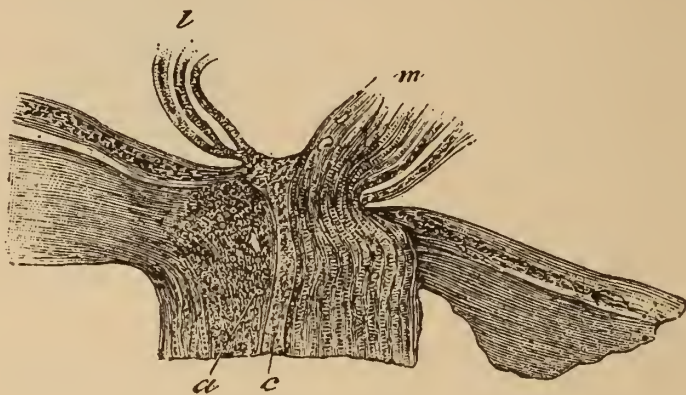


FIG. 22.

Section corresponding to the preceding illustration. Magnified 10/1. *a*, atrophic focus; *c*, central vessels; *l*, temporal section of the retina; *m*, nasal section.

testably less developed than on the nasal side. Amyloid corpuscles are met both in the intrascleral part of the nerve that contains fibers with a myelin sheath and in the portion consisting of simple axis cylinders. These bodies are also met in the nasal and temporal portions of the retina contiguous to the papilla. The papilla also shows an extreme richness in nuclei.

In *résumé* it may be said that the cause of the central scotoma in this patient should be referred to a partial atrophy of the optic nerve, consecutive to a neuritis, extending from the optic canal to the papilla. An atrophic degeneration of the macular fibers, without inflammatory signs, appears beyond the optic canal, consecutive to a long continued interruption of conductivity involving the fibers of the intra-orbital part of the nerve.

From this important observation related by Vossius, which corroborates and completes that detailed by Samelsohn, it appears demonstrated that the nerve fibers which supply the region of the macula are situated in the ventral

border of the *tractus opticus* (crossed fasciculus) and in the supero-external quadrant (non-crossed fasciculus), in two regions separated from each other. In the chiasm these fibers are found placed immediately beneath the floor of the *recessus opticus*; here they also remain more in the dorsal half and pass in the intra-cranial part of the optic nerve toward the optic foramen almost exactly in the center. From here on the disposition is modified simultaneously with a change in the form of the group of fasciculi. While the fasciculi formed a transverse oval layer at first, they constitute at once in the orbit more of a vertical oval, almost a crescent-shaped figure which, exactly behind the *foramen opticum* is not situated just in the center, but rather toward the temple. They thus rest on the temporal side, finally attaining near the entrance of the central vessels the temporal edge of the nerve, and pass to the papilla almost exactly in the infero-external section of the nerve under the form of a cone with its base occupying the border, the apex, the region of the central vessels of the nerve.

However, the observation reported by Sachs (*Arch. of Ophthal.*) does not correspond in all its features with the above deductions. From a series of eight sections, taken from a case of alcohol and tobacco amblyopia, he concludes that the macular fibers occupy a triangular space at the papilla, mostly in the supero-external quadrant. From here backward his descriptions closely approach those of Vossius and Samelsohn, as this author demonstrates the macular bundle of nerve fibers as assuming a crescentic or sausage-like form as it nears the optic canal, and as being, not central, but placed between the center and the periphery in the infero-external quadrant. Just inside the optic canal, Sachs states that the macular fasciculi are situated upon the lower side of the nerve between the center and the periphery, that they assume a sausage-like shape and equal in their long diameter three-fifths of that of the nerve.

We have also, as an anatomical basis of the disease in question, the researches of Gudden and Munk. According to these authorities, the macula receiving its fibers, in *equal*

parts, from the non-crossed and from the crossed fasciculi; the macular fibers proceeding from the non-crossed fasciculi supply that part of the retina which is found placed to the temporal side of the vertical meridian passing through the macula, while the fibers from the crossed fasciculi are furnished to the nasal half separated by the vertical meridian. As, except the half of the macula, the papilla occupies this median (nasal) half, it is clear that the macular fibers

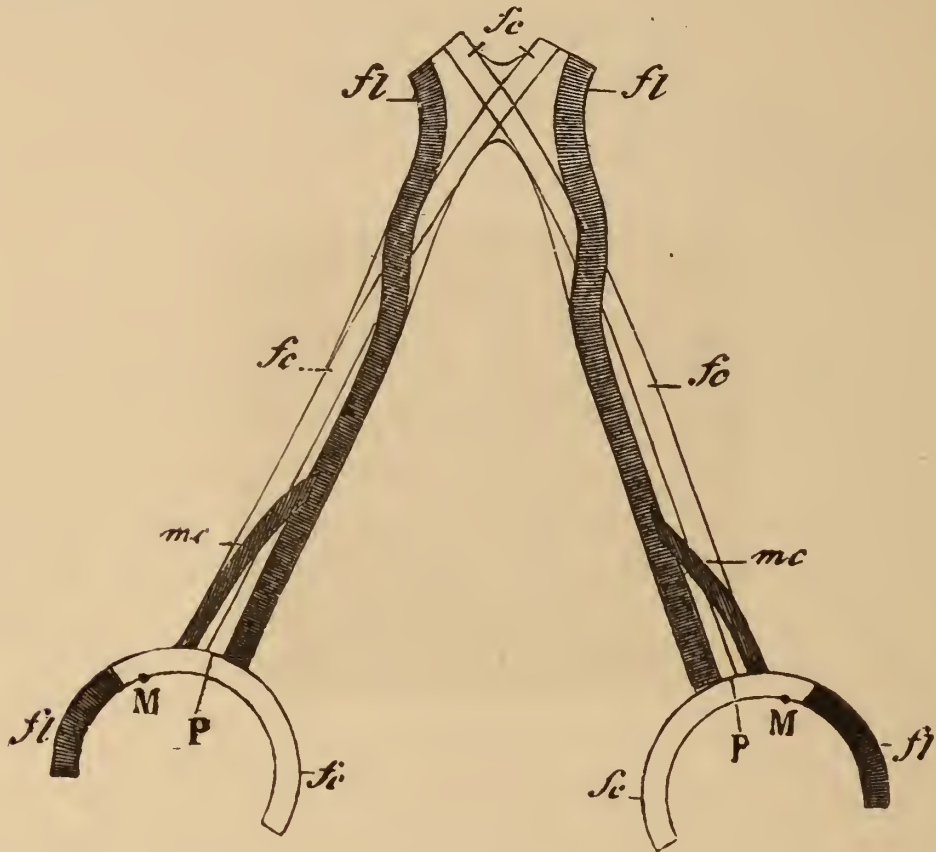


FIG. 23.

should cross at a given point with the other fibers. According to Gudden, the non-crossed fasciculus, proceeding from the superior and lateral side of the tractus, is transported in the chiasm to the median side of the same nerve. This observation, which will be remembered as confirmed by Samelsohn's researches, leads to the conclusion as to a point of interlacing situated in the course of the nerve itself, while a sudden decussation, as would be the case if this took place in the papilla, would more severely compromise the fine-

elements than an insensible deviation of these same macular fibers.

To quote exactly, for a more perfect understanding, we find the following: "A glance at the schema represented by Fig. 23 shows this disposition better than the most extended reasoning. The striæ *fl*, in short lines, represent the course of the non-crossed fasciculi in the tractus, the chiasm, and the optic nerve, and its distribution, for one part, in the various regions of the retina, for the other part, in the papilla P and the macula M. In the same manner the clear tract *fc* shows the distribution of the crossed fasciculus. It already markedly appears from this schema that if in the non-crossed fasciculus the fibers should in reality follow the

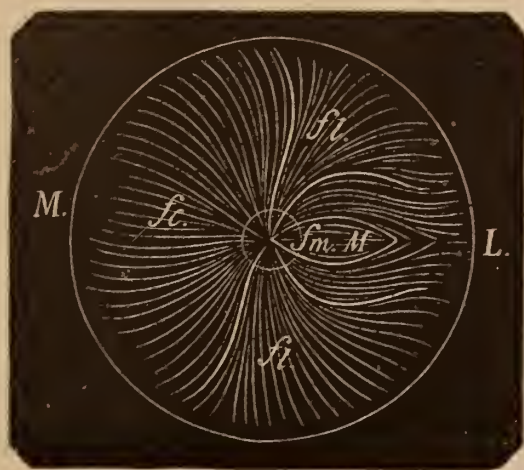


FIG. 24.

path designed to the papilla, they would, to assure their expansion in the lateral half of the retina, take a very inconvenient road and that, particularly, a layer of double fibers, belonging to both fasciculi, would be met in a much greater extent of the retina than is actually found, according to Michel's researches. But, if we admit that the macular fibers *mc*, belonging to the non-crossed fasciculus, progressively disengage in their passage through the nerve tissue, and attach themselves to their partner from the crossed fasciculus to penetrate together into the temporal side of the papilla, then this course harmonizes better with the known mode of division of the fibers in the retina. Then, as indicated by the schematic illustration in Fig. 24, the

macular fibers *fm* arrive by the most direct way toward the macula, and the remaining fibers of the non-crossed fasciculus find a sufficient place to emerge from the superior and inferior borders of the papilla, and to pass around the papilla to finally attain the temporal half of the retina."

In reviewing the various observations that have been cited there would seem to be a clearly-established anatomical basis sufficient to explain the symptoms of retrobulbar neuritis. There is apparently a partial interstitial neuritis of the optic nerve, with a marked tendency to cicatricial retraction and to secondary descending atrophy of nerve-fibers. This neuritis is localized by preference in the optic canal, where it may pass through all the phases of a neuritis, even to cirrhotic retraction of the nerve. If the axial portion of the nerve, in the corresponding region of the osseous canal is found entirely destroyed, then there is secondarily produced, in the orbital portion of the nerve, an atrophy analagous to that met after an interruption to its conducting power, in consequence of section, rupture or compression.

Etiology.—The following table, cited by Noyes, gives a fairly correct idea of the relative distribution of the causes contributing to produce retrobulbar neuritis:

a. Toxic causes.

From abuse of alcohol	64
" " " and tobacco	45
" " tobacco	23
" diabetes	3
" lead	1
" sulphuret of carbon	2
	<hr/>
	138

b. Miscellaneous causes.

From syphilis, acquired	7
" " hereditary	7
" multiple sclerosis	5
" cold	5
" menstrual disturbances	3
" pregnancy	4
" loss of blood at abortion	2
" anomaly of heart	1
" periostitis orbitæ	1
" unknown	32
	<hr/>
	67

Thus out of a collection of 205 cases, 138 were from toxic causes and 67 from miscellaneous disturbances.

With regard to its relative frequency, Samelsohn estimates that retrobulbar neuritis is met in 13 cases out of 100 diseases of the optic nerve.

While the central amblyopia, resulting from alcoholic or nicotico-alcoholic poisoning, occupies a very prominent part in the category of retrobulbar neuritis, it must be remembered that a limit should be defined between the *inflammatory processes* that constitute a neuritis proper, and the simple degeneration that belongs to primary atrophy. In spite of Uhthoff's admirable study * of 100 cases of alcoholic poisoning affecting the optic nerve, we still need more detailed observations of cases in which careful work with the perimeter has preceded the *post mortem* examination. To constitute a neuritis (retrobulbar) affecting the axial fibers alone, it is necessary to regard an absolute central scotoma without contraction of the peripheral field as the characteristic of the disease.

Though abuse of tobacco has been included in the table as a cause of retrobulbar neuritis, it is still doubtful if it acts alone when the resulting lesion is a retrobulbar neuritis. The Germans suffer less frequently from tobacco poisoning than from the abuse of alcohol, and Samelsohn denies entirely the isolated action of nicotine poisoning. However, Galezowski † has reported a remarkable case of monocular nicotinic central amblyopia.

In retrobulbar neuritis due to diabetes, attempt has been made to explain the action of the diabetic poison by referring to the decomposition of the glycose into acetone, a substance quite similar to alcohol. This point, however, is still doubtful. It is proper to add that diabetes does not always produce a clearly defined retrobulbar neuritis, as there is sometimes a complication of contraction of the peripheral field, and even a hemianopia, the latter pointing to an associated cerebral lesion.

* Græfe's *Archives*.

† *Maladies des yeux*, 1888.

The absolute central scotoma produced by lead poisoning is only one of the four forms of visual disturbance which saturnine intoxication may effect.* These four forms may be distinguished as :

a. Acute cases of ephemeral amblyopia or amaurosis, in which the result of ophthalmoscopic examination is negative or nearly so. Here, it is still an open question whether we have to deal with a passing œdema of the optic nerve sheath or with the existence of an acute retrobulbar neuritis (as rendered probable, in some cases, by the partial pallor of the papilla and relative scotoma).

b. The second class presents the acute or chronic cases with a pronounced optic neuritis (papillitis).

c. The third form, that particularly relating to the subject in question here, includes the chronic amblyopias that present the clinical and ophthalmoscopic picture of a retrobulbar neuritis.

d. The fourth class comprises those cases that develop as an albuminuric retinitis.

In the third form, that characterized by the existence of a retrobulbar neuritis, we have again two divisions. The first is a peripheral retrobulbar neuritis, in which only the periphery of the visual field is attacked. The second is the axial neuritis under discussion. The first form is that which Hock attempted to establish by five observations.† Thus he states that, aside from the chronic retrobulbar neuritis in which the axial fibers of the trunk of the optic nerve are attacked, there must be admitted a form of acute perineuritis, which is revealed by pain in the various movements of the bulbus (pain caused by dragging on the sheath), by nyctalopia, by a scotoma for colors situated in the different sectors of the visual field, with diminution of the visual acuity and few or no ophthalmoscopic symptoms.

True axial neuritis produced by lead poisoning is of course characterized by the evolution of a progressive central

* Bergmeister. *Revue Clinique d'Oculistique*, 1886.

† *Recueil d'Ophthalmologie*, 1884.

amblyopia, with perfect integrity of the visual field, in which in the beginning the demonstration only becomes possible by noting the reduction of the chromatic sensibility, in general, with a reduced illumination. Usually, cutting off the source of the poisoning and an appropriate treatment prevents the transformation of the relative scotoma into absolute. It is especially necessary to remember that the central amblyopia may be the first symptom of lead poisoning, and that reduction of the chromatic sense may be the most marked sign in the early stage. Poisoning by the bisulphide of carbon has quite recently come into prominence on account of the number of cases reported. In all the cases, central scotoma appears as in retrobulbar neuritis. The latest reported case * exhibits, however, a marked contraction of the peripheral visual field (Fig. 25), indicating that the toxic influence extends beyond the axial fibers.

Among the amblyopias due to quinine there are also a few cases in which the poisonous influence seems to have induced a central scotoma with the symptoms of a retrobulbar neuritis. But these pure cases are rare, the effects of quinine are usually more in the direction of contraction of the peripheral field. What is particularly remarkable, according to de Wecker, is that in some cases of quinine amblyopia the ophthalmoscopic image presents a pale papilla with slight blurring of the limits of the disc, thus showing considerable analogy with hereditary retrobulbar neuritis.

With regard to miscellaneous causes, syphilis, acquired and hereditary, multiple sclerosis, and taking cold constitute the greater share. Samelsohn attributes a very important part to the factor of cold, and cites the example of postal employees, who are subject to sudden transitions of temperature by passing from overheated restaurants into cold cellars in the discharge of their duties. Some experiments on animals, instituted by Lassar, also seem to confirm the influence of a sudden depression of temperature.

* "Amblyopie par le Sulfure de Carbone," G. Gallemaerts. *Annales d'Oculistique*, 1890, p. 154.

The effect of menstrual disturbances, of pregnancy, and of metrorrhagias, in producing retrobulbar neuritis, has been thoroughly discussed by Dr. Salo Cohn.* This author cites cases of retrobulbar neuritis accompanying dysmenorrhœa, with scanty menstruation, and *suppressio mensium*, in which excellent results were obtained by regulating the menstrual function. Many of the cases, however, which have been reported show negligence in the examination of the visual field, and it is difficult to determine to what extent an influence must be attributed to meningeal irritation and inflammation.

Aside from the effect of congenital syphilis there appears to exist a form of retrobulbar neuritis called *hereditary*. Leber was the first to call attention to this, but his work was followed in the same year by the publication of a series of cases gathered by Prouff from de Wecker's clinic. This hereditary neuritis usually appears only after puberty, and even after the twentieth year. The transmission is not commonly direct, but families are found in which the transmission from parent to child is direct. The hereditary tendency appears to extend to the second generation, but not to the third. Almost without exception the transmission affects the males, but this does not prevent the females of a family from serving as the intermediary for hereditary transmission to their male children.

The symptoms are most concisely stated by Knapp† as follows :

ACUTE FORM.

Headache.

Orbital pain.

Impaired vision.

Central scotoma.

General diminution of color perception.

Retinal congestion and serous effusion.

Ischæmia of retina.

The headache varies much in intensity; it may be a mere

* *Uterus und Auge*, 1890.

† Arch. Oph. XX, No 1.

AMBLYOPIA FROM BISULPHIDE OF CARBON.

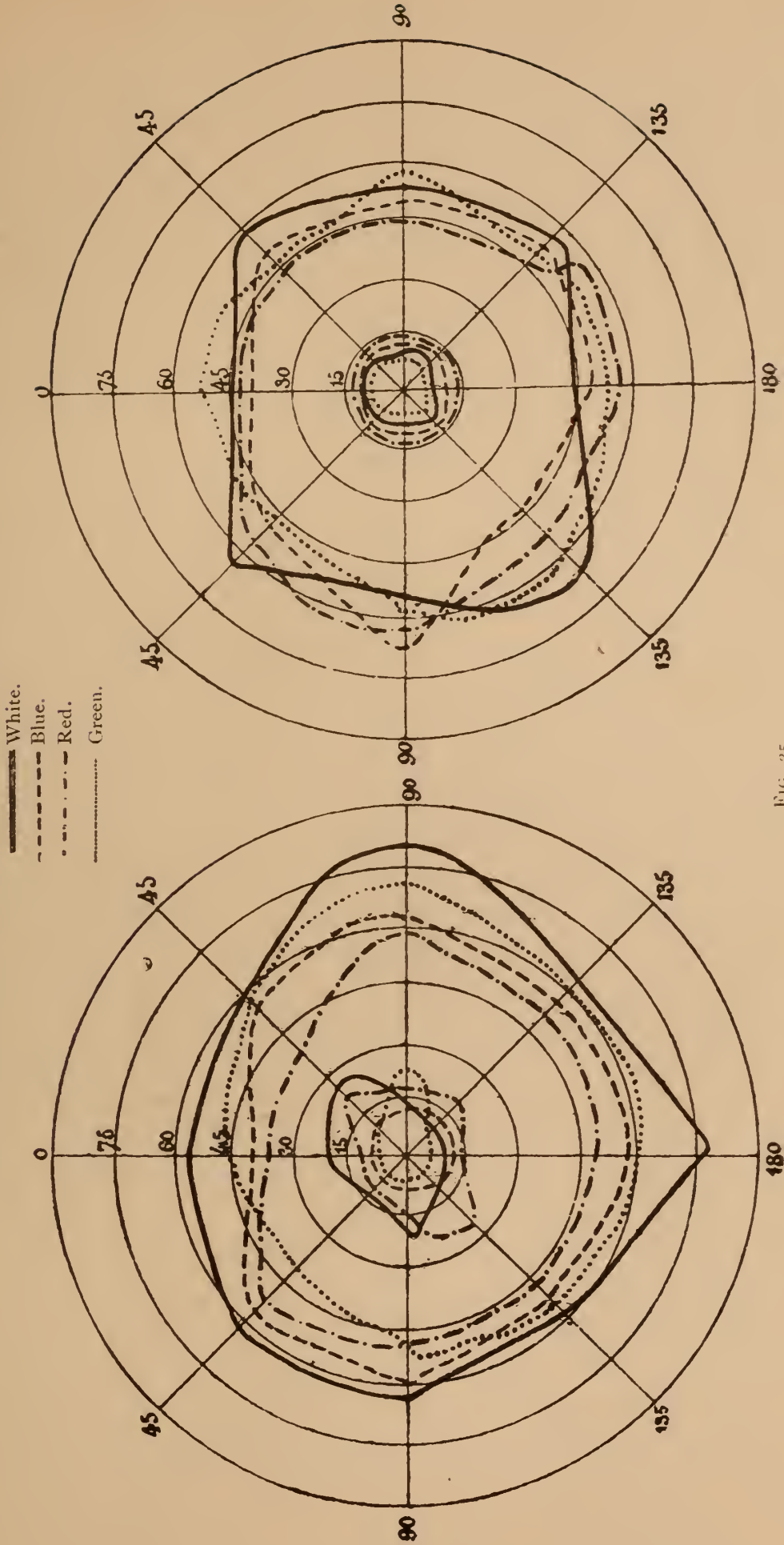


FIG. 25.

uneasiness in the frontal region, or a severe pain including the whole side of the head and the occiput, of the nature of a heaviness or a severe compression.

Orbital pain is often a feeling of stiffness in moving the eye, together with an uneasy pain which is aggravated by movements of the ball. We also have the symptom which is somewhat characteristic of this affection, the pain deep in the orbit when making pressure on the eyeball through the closed lid. Often the latter is the only variety of pain which can be demonstrated, and even this may be absent or so indefinite as to be unreliable.

In the acute form the impairment of vision varies within wide limits. There may be only slight decrease of visual acuity, or there may be almost, or quite, complete blindness. The particular characteristic of the acute, as compared with the chronic form, is the suddenness of the loss; the whole amount of damage may be accomplished in from a few hours to two or three days.

The central scotoma is of course the most important symptom. It is variously described as a mist, a cloud, an appearance as of heated air rising from a radiating surface, a fog, moving water, etc. It varies in intensity from a mere impairment of function as to form and color to absolute scotoma, in which all perception is blotted out within the affected region, the characteristic of the acute form being, as before, the suddenness of the onset.

In the typical forms of the affection the peripheral field should be absolutely normal; cases occur of a mixed character in which the pathological lesion is not confined to the axial fibers, and here we may find various forms and degrees of limitation of the peripheral field in connection with the central loss, but a strict classification will exclude these conditions from our consideration.

Mr. G. A. Berry* calls attention to the marked defect in the light sense in acute retrobulbar neuritis as compared

* Transactions Ophthalmological Society of the United Kingdom, Vol. ix. 1889.

with papillitis, when tested with Bjerrum's test types (made up of gray letters on gray ground of different shade). He found that in cases of the retrobulbar variety a vision of $\frac{20}{40}$ Snellen gave only $\frac{20}{100}$ with Bjerrum's $\frac{1}{6}$ type.

Another with vision of $\frac{20}{100}$ Snellen could only recognize Bjerrum one foot from the eye. A third with vision $\frac{20}{30}$ Snellen yielded only $\frac{6}{20}$ with Bjerrum $\frac{1}{11}$ types.

These marked differences were not present in cases of papillitis. In four cases of this form of disease the vision was, Snellen, $\frac{20}{20}$, Bjerrum, $\frac{20}{30}$. In all these cases the acuity for Bjerrum's type was as good as for the normal eye, notwithstanding the fact that the most pronounced changes in the papilla were found by ophthalmoscopic examination.

Mr. Berry infers that this difference in the light sense is present in all cases of retrobulbar neuritis, but the cases which he quotes are all acute and probably of rheumatic origin. The general diminution of color perception is common to both the acute and chronic forms.

The ophthalmoscopic signs are meager, and usually out of all proportion to the visual symptoms. The arteries are usually smaller; the veins enlarged and dark. A grayish haze, due to a circumscribed and moderate œdema of the retina, surrounds the optic disc and extends peripherally to a distance not greater, as a rule, than one or two diameters of the papilla.

We have seen cases where small hæmorrhages appeared to be present, but such is not commonly the case. Under appropriate treatment this condition may entirely clear up, leaving a perfectly normal fundus, or the disc may be permanently damaged in various degrees, from a slight pallor to a total atrophy. Where the loss of vitality is partial, the part affected, as may easily be supposed from the pathological anatomy, will invariably be on the temporal side.

The acute form of the disease differs from the chronic in one particular; in the fact that it not infrequently attacks a single eye, and may remain confined to that eye, while in the chronic process, although one eye may be attacked first,

its fellow will almost invariably become involved, and at no very remote period.

CHRONIC FORM.

Symptoms as given by Knapp : *

- Diminution of sight.
- Day blindness.
- Diminished color perception.
- Central scotoma.
- Diminished range of accommodation.

Boundaries of visual field normal, according to stage of disease the ophthalmoscope shows :

a. Fairly normal fundus or slight congestion. *b.* Sector-like atrophy in lower outer-part of optic disc. *c.* General atrophy of optic disc.

In the chronic form of the disease both eyes are commonly affected, and the visual defect progresses in a gradual manner. The dimness of vision, which in the beginning is very slight, may increase until the patient can only see shadows, or even to total blindness, although this latter is not common. The condition of vision furnishes no clew to the prognosis in a case, as frequently an almost total loss of vision will clear up rapidly, while, on the contrary, cases which are moderate in degree may prove exceedingly stubborn.

The condition termed day blindness is in reality due to the fact that the greater the amount of illumination, the more distinctly the scotoma stands out, and consequently the greater the interference with vision. This is more particularly the case when the scotoma is positive, as the negative form does not produce the disagreeable blurring and dazzling effect which is commonly found as a result of the former.

In either condition, however, the patient claims to see better in subdued light ; but examination shows that this is an error.

(To be continued.)

* *Arch. Oph.*, XX, No. 1.

BOOK REVIEWS.

A TEXT-BOOK ON DISEASES OF THE EYE. By HENRY D. NOYES, A. M., M. D. New York: Wm. Wood & Co., 1890, pp. 733.

It is a pleasure to review this most excellent work, in which one finds so much to praise and so little to condemn. The high standing of Dr. Noyes is a guarantee that anything from his pen will be worth the reading; but the terse and interesting style, the thoroughness with which the field is covered, the judicial fairness with which the views of prominent authorities on various subjects are presented, without attempt at distortion or detraction in deference to the author's opinions, and the many bits of valuable information derived from his long personal experience, combine to render the volume a valuable addition to the literature of Ophthalmology.

The work is divided into two parts, of which the first treats of "the general anatomy and physiology of the eye, with its functional disorders," while the second part considers "inflammations and organic textural changes."

The first chapter is devoted to the general coarse anatomy of the globe, and contains a table of the various measurements pertaining to it; the special anatomy of each part being placed at the beginning of the chapter devoted to the diseases of that part.

Chapter second considers the general physiology of the eye, and although but little space is used, the reader is given a very fair idea of the visual field, visual acuity, form, light, and color senses, with color-blindness and a description of test-types and other appliances necessary in testing these functions.

The two following chapters contain, respectively, the methods of examining the eye, and a description of the ophthalmoscope in its various forms, with the appearance of the normal fundus.

Chapter five is a general description of the lenses used for correcting the different errors of refraction and the methods of nomenclature.

Two chapters are given up to the anomalies of accommodation and refraction and the methods of diagnosis, including a concise and excellent description of retinoscopy. We can hardly agree with the author when he advises the use of a solution of Homatropine as a substitute for Atropine in obtaining paralysis of the accommodation, for testing purposes; the former drug we regard as very uncertain and entirely unsatisfactory where any mydriatic is really necessary in such cases.

The description of astigmatism is clear and accurate, but we can go farther than the author when he says that, with pronounced asthenopic symptoms, even degrees as slight as .50 D. should be corrected. We have many times found that most distressing symptoms arose from an astigmatism of .25 D. and have seen a cure follow the use of the proper glass.

Under the caption, "Binocular Vision and its Disturbances," in Chapter VIII, a concise account is given of the present state of knowledge of the cerebral origin of the nerves concerned in vision, which is illustrated by six plates.

We are glad to see that Dr. Stevens' theories respecting muscular insufficiency are given a fair hearing. While we may not all of us go so far as Dr. Stevens does in this matter, there is no doubt that this gentleman has opened up a rich field for investigation, and that, as a result of his work, we are much better able to treat certain cases which were formerly obscure and difficult.

In the chapters on the lids, most of the operations are described and a number of descriptive plates are given. The author still adheres to the old practice of slitting the canaliculus, and the continuous use of large probes in catarrhal dacryocystitis. We have found that better effects are obtained by dilating the punctum until a 4 or 5 probe can be inserted, after which anything but a bony stricture can be broken down by electrolysis with from 3 to 8 cells. By this method the suction power of the punctum is preserved, and we have been surprised at the results obtained in many cases.

The description of disease of the conjunctiva is excellent; that portion relating to conjunctivitis trachomatosa especially is clear and lucid, and the student should have some idea of the disease in its various forms after its perusal, which is more than can be said of most of our text-books.

As a general statement we are apt to object to the size of the dose used in many cases by our brethren of the old school, but in the treatment of conjunctivitis from gonorrheal contagion we must take the opposite side in the controversy. Dr. Noyes advises the use of silver nitrate in this disease in solutions of gr. x ad $\frac{3}{4}$ j, and states that "formerly much stronger solutions were used, but they are not to be commended except in extreme cases." In 1882 the writer chanced to have several of these cases to treat in the New York Ophthalmic Hospital, and the results under ordinary treatment were so poor that he was led to try strong solutions of argent. nit. gr. xxx ad $\frac{3}{4}$ j. By brushing the lids once each day with this solution, and neutralizing with salt water, the disease was rapidly brought under control; and such was the success of the experiment that this treatment has been used in the hospital in all these cases from that day to this, and our loss has been very small. We regard this disease as the result of a poison, and do not consider it a subject for "pathy" in any sense. Of course we use ice and extreme cleanliness.

The author is rather inclined to favor the performance of iridectomy in cataract extraction, because of the greater risk and difficulty of the simple operation. The modern rational after-treatment is advised.

The various forms of optic neuritis are clearly treated; more space is given to the retrobulbar variety of the affection than is common in text-books, and toxic amblyopia is properly considered as one form of this disease.

The work is up to date in most particulars, is readable, is written in a style to be easily understood by the general practitioner, and yet contains much that will be of value to the student of the specialty.

Two hundred and thirty-seven illustrations are inter-

spersed throughout the pages, many of which are original; and at the end of the book are a number of most excellent chromo-lithographs, representing the various diseases of the fundus.

The work of the publishers is fully up to its usual standard of excellence, and we most heartily commend the volume to the favorable consideration of our readers. D.

A TREATISE ON DISEASES OF THE EYE. By HENRY C. ANGELL, M. D., Professor of Ophthalmology in the Boston University School of Medicine. Seventh Edition. Boston: Otis Clapp & Son, 1891.

This little manual comes to us in its seventh edition, mostly rewritten, with its teachings brought up to date and an increased number of illustrations. A valuable addition to the work will be found in the contribution of Dr. F. Park Lewis, of Buffalo, who never writes without imparting information.

The various subjects are clearly, if briefly, treated; considerable space is devoted to the errors of refraction and to muscular insufficiency; the chapter on the latter containing the latest theories and methods of treatment, succinctly and lucidly explained. At the end is to be found a list of remedies for both internal and local use, with their indications concisely stated.

The fact that the work has already exhausted six editions would seem to indicate that the author's hope that it would prove useful to the general practitioner has been realized. D.

MISCELLANEOUS NOTICE.

The election of officers of the faculty of the College of the New York Ophthalmic Hospital for the ensuing year, which took place at the annual meeting in May, resulted as follows:

President, Charles Deady, M. D.; dean, Wm. E. Rounds, M. D.; secretary, N. L. MacBride, M. D.

THE JOURNAL OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

EDITOR,
CHARLES DEADY, M.D.

ASSOCIATE EDITORS,
H. H. CRIPPEN, M.D.
MALCOLM LEAL, M.D.

FOUR CASES OF TUBERCULAR LARYNGITIS.

BY DUDLEY WRIGHT, M. R. C. S., ENGLAND.

I have chosen the following four cases of this disease, inasmuch as they present a very fair picture of the malady in its different stages :

The last two cases are of particular interest ; Case III, showing the change in the direction of healing which the disease has undergone after the performance of tracheotomy, and in Case IV we have, apparently, an example of a cure which had taken place spontaneously and without any special treatment being directed to the laryngeal lesion.

I have not attempted to go into details of the treatment of any of these cases, as only one of them has been under medicinal treatment long enough to justify one in drawing conclusions ; and in that one the circumstances were so considerably complicated by the intercurrent attack of influenza, and such a large assortment of remedies was used, and with such doubtful results, that I have deemed it scarcely right to occupy space with what, at best, could afford but little assistance to those seeking information on this point.

CASE I.—Tubercular laryngitis in a man aged twenty-three years. The disease is of eighteen months' duration, the morbid changes being limited to the right side of the larynx. Slight pharyngeal ulceration, and signs of pulmonary phthisis at the left apex.

Wm. G., a "cat's-meat man," was first seen on April 22, 1891, at the Homœopathic Hospital, complaining of hoarseness, cough, with free expectoration and general weakness. He has suffered from fistula and has received operative treatment for it. Has received treatment for his throat for the past twelve months. Present illness commenced about eighteen months ago with gradual failing of health, cough, and soreness of the throat and loss of voice. His condition up to the present has varied a good deal, but on the whole has got worse.

When first examined he was a pale and somewhat emaciated man. He spoke in a hoarse whisper and was constantly coughing up pellets of muco-purulent expectoration. He complained of dryness of the throat, which was worse after waking in the morning. There was no stridor or difficulty in breathing, no actual pain in swallowing. No pain or tenderness to touch over the laryngeal region. Had sometimes some slight pain over the region of the thyroid cartilage, worse on the left side.

Examination of chest revealed the presence of flattening at the left apex; dullness to percussion; tubular breathing with moist crepitations; bronchophony and pectoriloquy over the same region.

Laryngoscopic Examination.—Mucous membrane redder than natural. The posterior wall of the pharynx just above the laryngeal aperture presented some small granulations and a few shallow ulcerations. Epiglottis rather angular in shape. Ary-epiglottic folds free from swelling. Very slight infiltration of



FIG. 1.

covering of the right arytenoid. The right ventricular band presents a swollen, irregularly nodular and ulcerated surface in the whole of its extent; the ulceration in front invading the base of the epiglottis, and, behind, the anterior surface of the posterior laryngeal wall. The right vocal cord is considerably redder than natural, though free from ulceration. Its movements are impeded.

On the left side the ventricular band and vocal cord are redder than natural, but the latter executes its movements well. There is considerable pallor of the tracheal mucous membrane; but it is quite free, so far as can be seen, from ulceration (Fig. 1).

CASE II.—Tubercular laryngitis of twelve months' standing, in a male aged twenty-six years. Much emaciation. Early phthisis at the left apex.

Laryngeal Condition.—Infiltration of right half of the epiglottis with slight ulceration, similar condition of the covering of right arytenoid ; extensive ulceration of the right ventricular band.

The disease running a chronic course, somewhat aggravated by an intercurrent attack of influenza.

Wm. B., æt. twenty-six years, first came under my care on December 11, 1890. Complaining of hoarseness and troublesome cough, with considerable expectoration. Previous history of rheumatic fever, but of no other illnesses. Family history of phthisis ; and one of his own children died of tubercular meningitis. Has had gonorrhœa, but not syphilis. He first noticed some soreness of his throat one year before consulting me, and immediately consulted a physician. Two months ago he had the throat burnt with the galvano-cautery, and shortly after that he was advised to undergo the Koch method of treatment, but this he refused to do.

Present Condition.—Rather emaciated. Voice almost toneless, at times becomes quite so, especially in wet and foggy weather. Cough of same toneless character as the voice, and very troublesome, accompanied by muco-purulent expectoration, which of late has been rather profuse and at times tinged with blood, though he has never had an actual attack of hæmoptysis. The cough is worse on coming into a warm room. No stridor or difficulty in breathing. No external tenderness ; slight pain on right side of larynx, especially on coughing ; at which times it runs up into the right ear. No difficulty in swallowing, but very slight pain on taking liquids, though no pain on eating solid food.

Physical Examination.—Fauces and soft palate paler than natural. Pharynx slightly granular, especially on right side.

Laryngoscopically.—Right portion of epiglottis considerably swollen and of an intense red color, an irregular line of ulceration running along its inner border. The mucous membrane covering the right arytenoid cartilage is very swollen and intensely hyperæmic with dilated vessels coursing over it, the swelling grad-



FIG. 2.

ually merging below with the right ventricular band, which is converted into an ulcer covered with a yellowish gray slough. Right vocal cord fixed in cadaveric position. The left side of the larynx is, save some hyperæmia, in a fairly natural condition (Fig. 2).

Chest examination showed the presence of early phthisis at the left apex ; the heart sounds were quite normal.

The patient received for some time Arsen. iod. 3 x gr. ii, t. d. s., and seemed to be improving ; but in February, 1891, he caught a bad cold, which was followed by aggravation of all the symptoms both subjective and objective, the ulceration of the epiglottis spreading to the middle line and encroaching on the left half.

In March he was attacked with influenza, which for the time completely prostrated him, and for several days he was in a most critical condition. He, however, managed to get over the immediate effects, and now he is slowly regaining his strength. The larynx at the present remains very much *in statu quo*, though there has been some slight advance of the chest signs. He is at present receiving Phosph. and Bell. alternately during the day, these two remedies appearing to be the only ones out of many tried which give relief to the cough. He still continues to take his food fairly well, without much pain.

CASE III.—For the notes of this following case I am indebted to Dr. Alex. H. Croncher, of Eastbourne, who kindly enabled me to see the patient and to take the accompanying sketches. The case was reported in full by Dr. Croncher, in the *Monthly Homœopathic Review* of April, 1891.

Tubercular pharyngitis and laryngitis in a boy aged thirteen years, the disease running a very chronic course. Ulceration of the fauces and pharynx, attended with a free tenacious muco-purulent secretion. The uvula in time nearly ulcerated away. Onset of dyspnœa which, increasing in intensity, finally necessitated tracheotomy. Retention of canula for twenty-two months, during which time the pharyngeal ulceration ceased and the laryngeal condition steadily improved. Canula still worn.

Wm. B., æt. thirteen, first came under the care of Dr. Croncher at the Eastbourne Homœopathic Dispensary on August 29, 1888. He was then complaining of "sore throat," which had commenced in the previous March, producing difficulty and pain in

swallowing, with great accumulation of mucus in the throat, and constant hacking cough.

His mother was at the time suffering from carcinoma uteri, but there was no history of consumption in the family.

The boy presented evidences of past rachitis, and was by no means healthy looking. There was no evidence of notching of the teeth.

Examination of fauces showed the presence of a large amount of tenacious muco-pus, which had to be cleared away in order to get a view of the parts. There was intense hyperæmia; the tonsils were enlarged and ulcerated; the palate, especially at its posterior border, thickened and nodular; the uvula enlarged, and apparently somewhat œdematous; the posterior pharyngeal wall swollen, raw-looking, and coated with muco-purulent secretion. The voice was thick in character, but not hoarse; there was odynphagia, but no dysphagia. Examination of lungs and heart gave negative results. Perspirations at night were present, and the temperature was raised.

In March, 1889, examination of the larynx showed that the ventricular bands and coverings of arytenoids were irregularly thickened. The left vocal cord was paralyzed, and partly hidden by the swollen ventricular band. The right cord moved on phonation.

Up to this time the patient had received various remedies, but there was but little improvement noticed. Dyspnœa had appeared, and on two occasions tracheotomy appeared to be necessary, but the urgent symptoms passed off.

By August of the same year he had become much emaciated. Dyspnœa was great; he could scarcely walk; cough was violent; nocturnal sweats; marked cyanosis on the least exertion, and vocalization was reduced to a whisper.

On August 9 intense dyspnœa came on, and Dr. Croncher performed tracheotomy. A bivalve tube was inserted, and relief of urgent symptoms was immediate. In a few days a Durham canula was substituted for the bivalve. The boy now gradually improved, and by June, 1890, he was able to do some light work. A short time before this he was treated for an attack of strumous ophthalmia, which lasted about a month.

By October 28, 1890, the patient was considerably improved. He still wore the tube. There was no pain on swallowing, though

he had to take his food carefully and slowly, to prevent its passing into the larynx. There were no signs of lung trouble. The cervical glands were slightly swollen.



FIG. 3.

Examination of fauces showed a small nipple-like elevation, where the uvula was originally placed; the interval between the pillars was narrowed; no signs of ulceration.

Through the kindness of Dr. Croncher I was able to examine the boy on April 16, 1891, and I found that he was still wearing the Durham canula, and, by closing the

mouth of the tube, he was able to converse in a hoarse voice. The fauces, etc., were quite free from ulceration, and of normal color, except in certain parts, where the scar-tissue was reduced to a nipple-like projection (Fig. 3).

The laryngoscope revealed considerable changes in the larynx. The left edge of the epiglottis had, by scar contraction, become adherent to the posterior pharyngeal wall, just above the aperture of the larynx. Its right edge was free. Both arytenoids were enlarged; more particularly the right. The left ventricular band was much swollen, and obscured the true cord beneath. The left arytenoid joint did not move on phonation. The right vocal cord was visible, and somewhat reddened, and moved fairly well on phonation (Fig. 4).



FIG. 4.

CASE IV.—A female, eighteen years of age, suffering from emaciation, cough, with free muco-purulent expectoration, persistent hoarseness, and other indications of chronic pulmonary phthisis; tubercular (?) ulceration of the left leg, accompanied by some superficial necrosis of the underlying tibia, and in whom the condition of the larynx would lead one to suspect the former presence of a tubercular affection which had undergone a spontaneous cure.

Nellie S., aged eighteen years, was admitted into the Homœopathic Hospital under the care of my colleague, Mr. Knox Shaw,

on April 14, 1891, for extensive ulceration of the left leg. She was at the time suffering from chronic pulmonary phthisis.

The ulceration was of some three months' standing, and the trouble apparently commenced with an abscess in front of the left tibia, which was lanced. The wound did not heal, and soon began to ulcerate. It had gradually got worse up to the date of admission.

About eight years ago she had an attack of bronchitis. The cough never went away, and hoarseness and loss of flesh soon supervened. Three years ago she was in the Brompton Consumption Hospital, where she was said to be suffering from phthisis. The voice at this time was quite toneless. The patient was in the hospital for four and a half months, but did not receive any special treatment for the throat. She was discharged in a somewhat improved condition, though the voice was still affected.

The cough had continued up to the present time and was accompanied by profuse expectoration. Examination of the chest showed marked dullness at both apices with tubular breathing and dry creaking sounds at right apex, and bronchial breathing with fine moist crepitations at the left apex. The heart was drawn considerably over to the right side, probably from cicatricial contraction of the lung at the right apex.

Laryngeal Examination showed the laryngeal mucous membrane to be of normal color except over the left ventricular band and the right cartilage of Wrisberg, where there was some localized redness. There was no infiltration of the mucous membrane covering the arytenoids. The right true cord presented a nodular outgrowth toward the junction of its middle and posterior third. The projection was of a pinkish color, and there was some hyperæmia of the cord of this spot. The movements of the right cord were somewhat impeded (Fig. 5).



FIG. 5.

The left true cord presents the following abnormalities; at its anterior part it is adherent to its fellow for a short distance; at its posterior part it is considerably below the level of the opposite cord, and at the junction of its posterior and middle third it is strongly drawn downward and outward beneath the overlapping

false cord. It is quite fixed and does not move on phonation ; the false cord performing its work by passing over it and meeting the right true cord on every attempt at vocalization. Both sinus pyriformes contain a small amount of muco-pus which, when cleared away, leaves no trace of any sinus.

While under treatment the patient was put under an anæsthetic and the ulcer on her leg was well scraped. A good deal of necrosed bone was found but it was not completely removed. The greater part of the wound healed up, a small sinus being left leading down to the remains of the necrosed bone at the time when the patient was discharged.

In the above case, were it not for the other strong confirmatory signs of a tubercular condition, I should be very much inclined to doubt the propriety of classing this as one of tubercular laryngitis.

Even now, though there are no signs pointing to the patient having either acquired or congenital syphilis, I cannot help thinking that it partakes of the nature of a mixture of syphilis and tubercle.

Professor Schwitzler, * of Vienna, read a paper on this subject at the last International Congress, and showed that in many instances the two processes attack the larynx at the same time, or that a tubercular laryngitis becomes engrafted on a syphilitic ulceration in those who are of a tubercular diathesis. In the majority of these cases it appears that the disease runs a more chronic course and is very liable to heal up under anti-syphilitic treatment, though relapses are frequent and the patients, as a rule, ultimately die of the extensive ulceration or pulmonary phthisis.

* *Ueber Kombination von Syphilis und Tuberkulose des Kehlkopfes und die gegenseitige Beeinflussung beider Prozesse* : Wien, 1890.

HEREDITARY CONGENITAL CATARACT.*

BY HAROLD WILSON, M. D., DETROIT, MICH.

It is a well known fact that congenital cataract is often hereditary. Williams † records having seen "an instance where seven individuals of one family had cataract," and, at another time, having "operated in one day upon the six eyes of three children in a family where yet another child and the mother were affected; two other children remaining thus far unaffected."

Although the affection itself is not rare, and has, no doubt, been recorded before as appearing in different branches of some family, from the literature at present accessible to me, I am unable to find any history of more extensive family involvement than that above quoted. For this reason, I take the liberty of presenting the following interesting family history, showing the widespread and persistent inheritance of this affection through many generations.

The family in question springs from a mixture of German, English, and French stock, and I quote the following from one of its members, a well known homœopathic physician, by the way, giving a brief account of the physical endowments of his ancestry.‡ "Generally speaking, they were all hardy, healthy, and free from any constitutional disease whatever, save tetter (*herpes humida*), which pre-

* Read before the New York State Homœopathic Medical Society, September, 1891.

† "Diseases of Eye," 1862, p. 144.

‡ *U. S. Med. and Surg. Jour.*, vol. vi., p. 46.

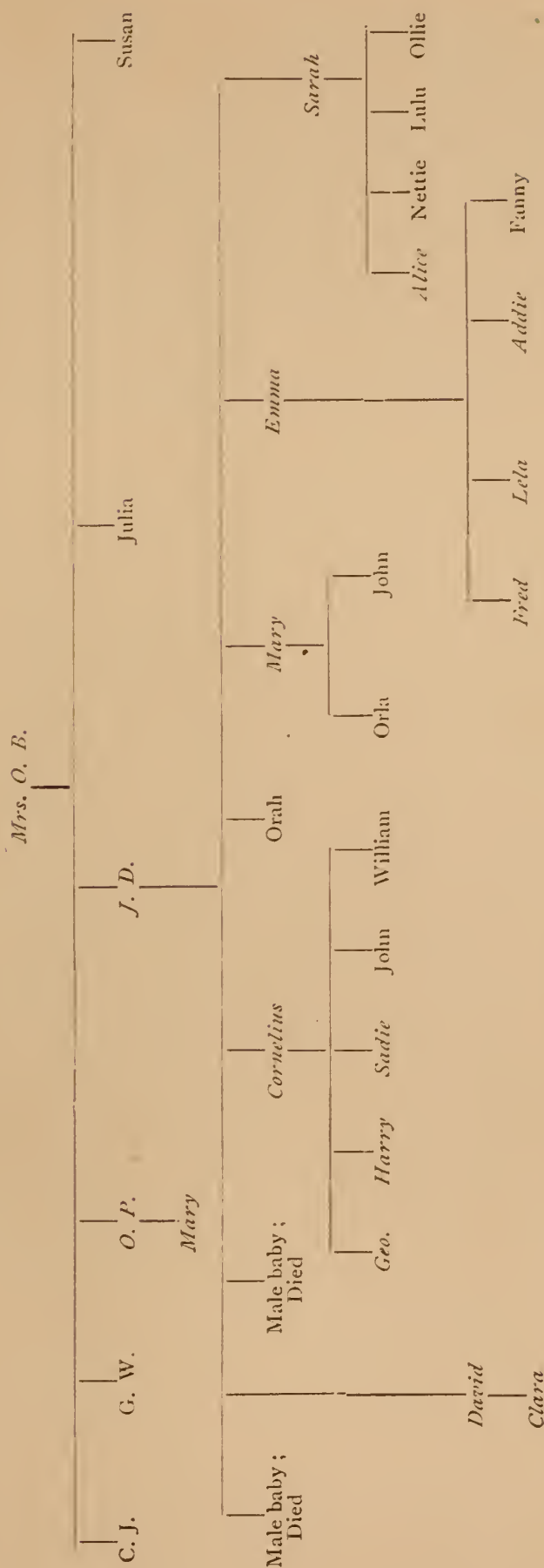
vailed upon the German side for at least six generations back; also nearsightedness. These two troubles were most faithfully transmitted to the present generation." In regard to the tetter, I am not disposed to question the accuracy of the statement; in fact, I should rather call attention to the possible connection between it and the prevalence of cataract, but I am compelled to believe that the "nearsightedness" of the older generations was, like that of those now living, due to cataract rather than to myopia.

Although cataract had thus doubtless existed through many previous generations, the first definite record of its existence in the family is in the person of Mrs. O. B., the great-grandmother of the at present youngest generation of her descendants; of her six children, four sons and two daughters; two of the sons, O. P. and J. D., also had cataract, the daughters having sound eyes. These two sons were the only children who married. O. P. had one daughter, and she had cataract. I am told that several operations were made on her eyes, but without much success, and, curiously enough, she is the only member of the entire family who ever has been operated upon. J. D. had four sons and four daughters; two of the former and three of the latter having inherited their father's cataractous eyes, and by a sort of fatality these were the only children who married, and of their children, of whom there are sixteen in all, eight have cataract and eight have not. In short, out of a total of thirty-one descendants of the original grandparent, sixteen are afflicted with congenital cataract, males and females in almost equal proportions.

I have personally examined the eyes of twelve of these descendants, eight of whom have cataract. The general condition of these affected eyes is about the same, so far as my observation goes. The lenses show various degrees of opacity; in some it is a diffuse deep haziness, with perhaps some clouding of the posterior capsule, while in others opaque laminæ are clearly visible. Vision is considerably affected in all cases, but many of the patients can see fine

HEREDITARY CONGENITAL CATARACT.

TABLE OF FAMILY RELATIONS.



All those whose names are in italics have congenital cataract.

objects by bringing them very close to the eyes. Squint is not uncommon, and Addie has nystagmus. The general health of the family seems still to be good. The children are strong and vigorous, so far as my knowledge goes, and the persistence of this hereditary misfortune is the only notable drawback to otherwise healthy constitutions.

In order better to appreciate the prevalence of this disease, if it be a disease, in the family, the preceding tabular view is appended; the names of affected individuals are printed in italics, so that they may be seen at a glance.

SPASM OF THE CILIARY MUSCLE.*

BY E. J. BISSELL, M. D., ROCHESTER, N. Y.

If we accept as a definition of spasm "a tonic or clonic contraction of involuntary muscles," there seemingly can be but little doubt as to what would constitute spasm of the ciliary muscle; and we can quite easily reason out some of the symptoms which would naturally accompany it. Yet when we come to study this condition in the light of what has been written about it, there is considerable confusion; and when we are brought face to face with patients presenting certain peculiar and seemingly characteristic symptoms, we find ophthalmologists differ as to diagnosis. It appears as though there was ciliary spasm and ciliary spasm! In other words, there are those cases in which all would agree as to the diagnosis of spasm of the ciliary muscle; but a very much larger class of cases which some would diagnose as spasm; some, as excessive functional activity; some, "tension of accommodation"; and others, "muscle tone." If exactness and harmony in diagnosis were the *only* things to be considered, this confusion would not be so deplorable, but this difference in diagnosis implies a difference in prognosis and therapeutics.

First of all, then, I wish to consider the question whether true ciliary spasm is the everyday occurrence which some claim, or the rare condition which others find.

As I interpret the symptoms which my patients present,

* Read before the Homœopathic Medical Society, State of New York, September, 1891.

I find but few cases which I call true ciliary spasm ; and I believe that in proportion as ophthalmologists are thorough in their examinations, and employ varied tests in estimating ametropia, they will find fewer cases with this annoying condition present.

For the purposes of this article, I wish to call those cases regarding which there would be a difference of opinion false spasm, in contradistinction to the true, which all recognize.

These two classes of cases have many symptoms in common, such as asthenopia in its varied forms ; inability to use the eyes for any length of time ; a habit of reading too near in proportion to the state of the refraction ; hyperæmia of the lids ; a tendency to a contracted pupil ; and some discomfort in adapting the eyes to the prescribed glasses. Yet there is a positive difference between these two conditions, and I desire to show that it is not merely one of degree.

If we have a case of *true* ciliary spasm to deal with, the apparent ametropia, as shown by the subjective examination, is either markedly different in degree, or character, from the real ; and the objective examination, both with the ophthalmoscope and by retinoscopy, gives a result similar to the subjective test, or apparent defect.

If, on the other hand, the above objective examination reveals very nearly the real defect, I would class the case as one of false spasm. If it is a case of astigmatism, I still further verify the objective tests by Javal's ophthalmometer.

To illustrate, take a case of simple hyperopic astigmatism of 1. D. Test the case subjectively and it indicates 1. D. of myopic astigmatism. Now examine the patient with the ophthalmoscope and by retinoscopy, and if these show myopic astigmatism, I would call it true spasm ; if they reveal the *real* defect (hyperopic astigmatism) I call it false. Follow the case a little farther : prescribe glasses to correct the real defect, and if we have not been able to differentiate between the two conditions before, our patient will very soon aid us. If it is a case of false spasm, the patient after a few days of possible discomfort finds relief in using the

glasses; but if it is a case of true ciliary spasm, the patient not only secures no relief but may even suffer more. It is assumed in the above case that there is no heterophoria demanding attention.

The next most important differentiating symptom is posterior staphyloma; Soelberg Wells * says that "excavation of the optic disk is not unfrequently present," and I have been much interested in searching for it. I find it in a majority of cases; but my clinical experience will not warrant me in saying, as Schoen † does, that from its mere presence a diagnosis of ciliary spasm can be made.

Another symptom of importance is hyperæmia of the disk and retina. While this may be associated with other conditions, it is hardly ever absent in true spasm.

Noyes's ‡ test for spasm is very good but is not applicable to all cases. He places a prism of 5° , base in, and a + 3. D. lens before each eye; with these an emmetrope should be able to read Sn. No. 1 at 13": "if he cannot read it farther away than 9", the doctor diagnoses it as a case of spasm. Two facts, I think, are beyond dispute. First, a diagnosis of spasm cannot be made from any examination which incites the ciliary muscle to action, as occurs in all subjective tests. Second, the term spasm is misapplied to all cases in which, when there is nothing to call the accommodation into play, we find the muscle relaxed.

Having therefore excluded a large class of cases which some would diagnose as spasm, the question might naturally be asked, "What would I call them?" I do not think that the same condition is present in all. In some cases, especially where hyperopia, or hyperopic astigmatism, is present, I look upon the phenomena manifested as the result only of excessive functional activity.

Where there is an incentive to accommodation, the ciliary muscle merely rises to the emergency and makes

* "Wells on Disease of the Eye," p. 666.

† "Annual of Universal Medical Science," p. 89.

‡ "Noyes's Diseases of the Eye," p. 195.

distinct vision possible. By means of this very activity the muscle becomes stronger and is capable of doing more work than in an emmetropic eye, and does not, at least in simple hyperopia, of moderate degree, manifest any sign of trouble until the demands upon it are such as would cause asthenopia in a normal eye.

Owing to the development of the muscle the proportion between the amount of accommodation used in ordinary work, and the greatest possible power of accommodation, is practically the same as in emmetropia. The abnormal condition has almost become a normal state, and is it strange, therefore, that after years of such work, on the day of our examination, the muscle does not completely relax and conform to our arbitrary standards? As Dr. Burnett * suggests:

“It must be remembered that in dealing with the human eye we have to do not with an optical instrument alone, but an organ of sense as well. All of our senses are in a measure affected by education, and after a certain habit has once been firmly fixed it is with difficulty changed in any important particular.”

Judiciously prescribe glasses for such a case, and my experience has been that you will soon discover the muscle resigning in favor of an assistant. Not so when true spasm exists, for then you will be compelled to conquer it with other means. In a large majority of cases of hyperopic astigmatism in which we find apparent myopic astigmatism, the change is a voluntary one, the patient preferring to use his anterior focal plane because there the circles of diffusion are less.

In myopia, where the apparent is greater than the real defect, I like the term suggested by Dr. Green, “tension of accommodation” caused by the necessity of excessive convergence, while I recognize that in some cases there is a small fraction of the accommodation which the patient does not relax either before or after the use of glasses; still

* “A Treatise on Astigmatism,” p. 164.

I do not think that "muscle tone" expresses the true existing condition. It has not been proven that "tone" is a property of unstriated muscle.

As a cause of true ciliary spasm, I have found ametropia the most frequent, especially hyperopic astigmatism of from 1 to 2 dioptics; or the same amount of astigmatism combined with a moderate degree of hyperopia; and particularly is this true if anisometropia of at least .5° D. exists.

But especially do I desire to call attention to exophoria as an etiological factor.

This fact has been recognized by ophthalmologists for several years, but due importance has not been given to it. Indeed it is often seemingly ignored when they come to talk about therapeutics. If exophoria is markedly present it is a contra-indication for using atropine. How weakness of the internal recti acts as a cause of ciliary spasm is quite easily understood. The intimate relation between accommodation and convergence is now an undoubted fact. Therefore when exophoria is present the demand upon the accommodation is increased to such an extent as will be sufficient to stimulate the internal recti to perfect adjustment.

Noyes * says, "An extremely frequent cause of spasm is insufficiency of the external recti. That esophoria is sometimes associated with spasm I have observed, but I do not believe that it acts as a cause. The spasm of the accommodation stimulates the internal recti, and as a result the external appear to be weak; but often they are not relatively so.

There are many other rare causes of spasm, such as local irritation about the eye, excitation of the central nervous system, or sympathetics of the neck and even rheumatism. †

The therapeutics of ciliary spasm are of especial interest

* "Diseases of the Eye," p. 64.

† "Rheumatic Spasm of the Ciliary Muscle," by Chas. Deady, M. D., JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY, AND LARYNGOLOGY, Vol. III., p. 82.

to us as homœopaths. Of course no one would neglect to correct any error of refraction, although there might be a difference of opinion as to the strength of the glasses first prescribed.

The verdict of the old school is unanimously in favor of Atropine. Can we offer anything better? Some have answered this so decidedly in the affirmative that they have discarded the use of Atropine. A. C. Peterson, * in speaking of Gelsemium, says:

“I have not found it necessary to subject any patient to the annoyance of Atropine for at least six years past.” Even if the drug would relax the ciliary muscle in all cases, it is hardly homœopathic. There is nothing in the physiological action of Gels. to lead us to prescribe it according to the law of similars. When it overcomes the accommodation, it does it by means of its paralyzing power.

While placing great reliance upon such homœopathic remedies as Jab., Eserine 3x, Lil. tig., Physos., Agar., etc., still I see no reason for entirely discarding the relaxing effects of Atropine, Duboisia, or Hyoscyamine, unless there be present marked exophoria. When this condition does exist the carefully selected homœopathic remedy, and appropriate treatment for exophoria, will meet all the needs of the case.

Theobald † recommends a 10 per cent. oleate of Veratria for a symmetrical spasm. He has it rubbed upon the temple each morning. I have also found it very efficient. Some, I think, have mistaken his indication for it (asymmetrical spasm), and have looked for satisfactory results in symmetrical spasm, but have been disappointed.

* JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY, AND LARYNGOLOGY, vol. i., p. 135.

† *Amer. Jour. of Ophth.*, vol. vi., p. 231.

PROXIMATE AND REMOTE EFFECTS OF NASAL OBSTRUCTION.*

BY IRVING TOWNSEND, M. D., NEW YORK CITY.

Obstruction of the nasal passages as a factor in the production of a large variety of morbid symptoms and conditions has until recent years been little appreciated, and I believe rhinologists have much to learn yet regarding the remote effects produced reflexly by irritation in the nasal cavity. Nasal stenosis may be due to a variety of pathological conditions, the chief of which are: hypertrophy of the mucous membrane lining the nasal cavity, deflected septa, growths (benign and malignant), and deformity resulting from a neglected or improperly treated fracture. Simple hypertrophy is an exceedingly common condition and usually results from repeated attacks of acute coryza, and often exists coincidentally with a chronic nasal catarrh. It may possibly be caused, and is undoubtedly aggravated, by the frequent use of irritating snuffs. The lesser degrees of hypertrophy are of no especial importance as a rule, and may exist for years and gradually undergo atrophic changes without producing any disturbance. The obstruction produced by a given degree of hypertrophy depends considerably on the conformation of the nose; thus, a nose having large lateral dimensions, as occurs notably in the negro race, may be the seat of quite an extensive thickening, without any or very little impairment of the respiratory functions,

* Read before the Homœopathic Medical Society, State of New York, September, 1891.

while a much less degree of hypertrophy, relatively, in a thin, aquiline nose, with narrow cavities, may cause almost entire occlusion. The amount of obstruction caused, rather than a degree of hypertrophy, should be a guide as to the propriety of invoking the aid of operative measures. The mucous membrane overlying the turbinated bodies, as well as the sub-mucous tissue, is the most common seat of hypertrophic changes, though the septum, and indeed almost any portion of the mucous lining of the nasal cavity, may be affected.

A certain amount of deflection of the septum is usually present and is only of importance when excessive or when associated with hypertrophy or a growth opposite its convex surface. I have observed an almost universal tendency to hypertrophy on the side opposite the concavity of the septum in cases where considerable deviation exists. I do not know why this should occur unless it be an effort of nature to restore the equilibrium between the two sides. Fractures of the nose, produced by direct violence, as a fall or blow, are commonly met with, and, when slight, may amount only to a dislocation of the cartilage, or a separation from the perpendicular plate of the ethmoid, with which it is continuous; when more severe it is apt to result in a comminuted fracture of the ethmoid plate, and unless treated with extreme care not only causes considerable deformity, but also a good deal of obstruction of the nose is likely to result.

The varieties of tumors likely to occur in this locality are myxomata, fibromata, enchondromata, ecchondrosis, osteomata, exostoses, sarcomata, and carcinomata. Cystic tumors are also occasionally met with. Myxomata, fibromyxomata, ecchondrosis, and exostoses are the growths of most frequent occurrence. Sarcomata may occur primarily, and occasionally innocent growths take on the characteristic of this disease. Carcinomata are fortunately rare.

It is not within the province of this paper to discuss the etiology or pathology of the various conditions producing nasal stenosis, nor do I intend to speak of the merits of the

different measures, medical and surgical, commonly directed to their removal and relief.

Among the direct results of nasal hypertrophy, and its congener, chronic nasal catarrh, is chronic catarrh of the middle ear. This is not only a very distressing malady but an exceedingly difficult one to treat and has been appropriately termed the *bête noir* of otologists. The hearing is generally seriously compromised, which, with the attendant tinnitus aurium, frequently gives rise to profound mental depression and even to insanity. This condition may be caused by a polypus or an hypertrophy of the posterior part of the inferior turbinated body, impinging on the opening of the eustachian tube, thus interfering with the ventilation of the middle ear, and producing a source of irritation. The same thing may be brought about by any form of obstruction sufficient to produce a rarefaction of the air in the posterior part of the nasal cavity, and a retention of the natural secretions causing a catarrhal inflammation which extends, by continuity of structure, to the tube and middle ear. These cases often improve very rapidly after the obstruction is removed where previous treatment showed little or no improvement.

Persistent and distressing headaches are sometimes caused by catarrh of the frontal and sphenoidal sinuses; the pain is apt to be dull in character and continuous, but may be neuralgic and intermittent. When the seat of the trouble is the sphenoidal sinus the pain is apt to be referred to the occiput; when the frontal sinuses are affected it is located in the frontal or supra-orbital regions. The direct extension of the catarrh from the nose and naso-pharynx, and the alternate rarefaction and compression of the air during respiration are potent factors in the production of these troubles.

Catarrhal conjunctivitis, inflammation and occlusion of the lachrymal duct, may also be traced to this cause and a permanent cure can only be effected by correcting the trouble within the nasal cavity.

Disease of the antrum Highmorei (catarrhal or suppura-

tive), though sometimes produced by irritation or suppuration at the root of a molar tooth, may be due to a growth or hypertrophy in the nose, causing obstruction to the duct and condensation of the air and gases within, as a result of which neuralgic pains, congestion, and sometimes suppuration occur.

The changes in the voice giving it the so-called nasal twang produced by obstruction are too well known to need more than passing notice. This is always very disagreeable, and in those whose vocation requires a clear as well as an accurate use of the voice, as singers, public speakers, etc., it becomes a matter of great importance. The great prevalence of this trouble in this country, and particularly along the Atlantic seaboard, has given rise to the belief, not uncommon among foreigners, that it is a characteristic Americanism, or a species of affectation.

Ozæna, when not of syphilitic origin, is commonly associated with atrophic catarrh, though I believe obstruction causing a retention and degeneration of the secretions a frequent cause of this condition. Cases of ozæna occasionally present the atrophic form of catarrh associated with an anterior ecchondrosis or exostosis, causing almost complete stenosis.

Anosmia, as well as a very considerable impairment of the sense of taste, is a not infrequent concomitant of this condition.

Post-nasal dropping of mucus, particularly where the secretion is abundant, becomes another source of annoyance, and often danger as well, where, having found lodgment in the pharynx or upper air passages, it becomes inspissated and forms a new focus of irritation. Habitual mouth breathing is a not insignificant factor in the etiology of catarrh of the pharynx, larynx, and trachea, and where the predisposition exists, or the occupation or environment favors, it is not improbable that this habit may become the exciting cause in the development of pulmonary phthisis. The inspired air, laden with dust and impurities, and deprived of the filtration process exercised by the ciliated

epithelium of the nasal cavity, cannot fail to act as an irritant to the delicate mucous lining of the lower air passages. Certain it is that a considerable number of mouth breathers develop pulmonary disease, though I have no data at hand by which to show to what extent it may act as a causative agent. Most authorities recognize as the important element in the production of pulmonary pthisis the tubercle bacillus, though it must be conceded that the development of the disease depends first on the existence, either hereditary or acquired, of a favorable soil. The opportunities for tubercular infection exist on every hand, and we are all undoubtedly exposed many times, but, the conditions for its development being unfavorable, in the majority of cases the disease is not acquired. Where the postnasal secretion is excessive, and is habitually taken into the stomach instead of being expectorated, as occurs most commonly in children, it has an undoubted influence in producing indigestion and thereby a faulty and imperfect nutrition.

The morbid conditions and symptoms above enumerated may be classed as the direct mechanical results of nasal obstruction, but there is another class of diseases which may be characterized as remote, or reflex, not less important, though their etiology is more obscure and their relationship more difficult to trace.

This latter class may include chorea, epilepsy, asthma, reflex spasmodic cough, spasm of the glottis, hay-fever, migraine, neuralgias, neurasthenia, enuresis, and reflex salivation. Such conditions as gastralgia, cardiac palpitation, and obscure uterine disorders have, with doubtful propriety, I believe, been referred to intra-nasal lesions. The production of reflex disturbances of nasal origin presupposes the existence of two conditions: first, a diseased condition within the nasal cavity; second, morbid irritability or excitability of certain nerve cells in the central nervous system. This condition of the nervous system may be induced by continued or repeated irritation within the nose, usually in individuals of the neurotic habit.

Idiopathic epilepsy, so called in contradistinction to that form due to organic changes within the brain, may be induced, as has been proven, by a variety of morbid conditions in distant organs. The following is from a very able paper read by Dr. James C. Wood at the meeting of the International Homœopathic Congress in June, 1891 :

“It is well known that, under favorable conditions, the slightest derangement or modification of function in a sensitive organ, so slight as to attract no attention to that organ, may, to use the simile of a well-known writer, cause distant organs to respond violently—as the alarm gong responds to the tap of a distant button.

“The sympathy existing between the stomach and the brain is well known, and the one will quickly respond to any disturbance of the other. It may be impossible to overcome reflex asthma and the so-called hay-fever without directing attention to the hypertrophied posterior nares or the nasal mucous membrane. We are told by the oculist that certain obscure nervous symptoms, and even epilepsy, may be due to errors of refraction. As gynæcologists we know that an anal fissure will cause not only most exquisite pain at the seat of the lesion but may disturb the whole vasomotor system, giving rise to the most irregular distribution of blood in various parts of the body. I myself have seen a most obstinate reflex paraplegia disappear only after curing a urethral fissure.”

Dr. Wood cites a case of reflex epilepsy, in which the attacks occurred once or twice a week, which was completely cured by the removal of a shoe button which formed in the left nasal cavity the nucleus of a large rhinolith.

Dr. W. C. Ayres, in the New Orleans *Medical and Surgical Journal*, records a case of petit-mal, with concomitant asthma, which was completely relieved by appropriate treatment of septal and turbinate hypertrophies.

A few other cases have been recorded in which relief of obstructive nasal disease had been followed by permanent relief of epileptic attacks.

That chorea may be produced in this way is quite gen-

erally admitted. I myself have seen a case, in a girl about twelve years of age, very promptly relieved by the cure of a hypertrophy of the inferior turbinated.

Cases of spasmodic cough have been reported from time to time due to nasal disease, as shown by the cure which speedily followed the restoration of the nasal mucous membrane to its normal condition.

Dr. A. B. Thatcher, of Cincinnati, reported two cases of reflex salivation due to intra-nasal disease.

Exclusive of those neuralgias which may be directly due to intra-nasal pressure, they may be produced by reflex irritation as well, and when of this character are often entirely disproportionate to the amount of hypertrophy or obstruction.

Migraine, when not of cerebral origin, occasionally occurs as a result of a diseased condition within the nasal cavity.

Nocturnal enuresis in children has been attributed to intra-nasal hypertrophies. A case of this kind was recently reported in the *Berliner Klinische Wochenschrift*, in which a permanent cure of this trouble was brought about by the relief of the nasal obstruction.

That variety of conditions classified under the general term of neurasthenia, concerning the etiology and pathology of which such a diversity of opinion exists, may occasionally, though seldom, I believe, be traced to intra-nasal disease.

Dr. John M. McKenzie, of Baltimore, in a paper read before the American Laryngological Association, 1886, says:

"The derangement of the nervous apparatus may be transmitted from father to son, or it may be acquired in a number of different ways. Thus, for example, it may be the result of prolonged irritation of the respiratory mucous membrane (*e.g.*, from nasal congestion and inflammation, polypi, etc., chronic affections of the larynx, pharynx, and bronchi), leading to repeated and continuous vascular disturbance over certain areas (as, for example, that portion of the nasal mucous membrane covered by erectile tissue), with subsequent abnormal irritation of the nerve centers.

I do not bring this forward as a mere theoretical assumption, but as a fact of personal experience, having been able to trace clinically the development of the neurasthenic condition from simple pathological irritation in the respiratory tract, and notably in the nasal passages."

The following from an editorial in the *Journal of Laryngology and Rhinology* expresses apparently a somewhat different opinion :

" To assert that the slight pathological abnormalities met with in many nasal organs, even when accompanied by nasal catarrh, is, in real proportion of neurasthenic individuals, a potent cause of their trouble, is, we think, to take up an untenable position."

The most optimistic seeker after truth would, I believe, hardly advance the opinion that " slight pathological abnormalities " play an important role in the production of this condition ; however, the opinion obtains among some conservative rhinologists that nasal disease may and does occasionally act as an important factor in causing neurasthenia.

In not a few cases asthma is undoubtedly the result of nasal obstruction, most frequently that due to polypus or hypertrophy. Votolini is accredited (though this is denied by some historians) as the first to point out, in 1871, the connection between polypus and asthma, and since that time many cases have been reported in which asthma has been induced by the presence of polypi, and a few which were due to hypertrophy. The removal of the offending polyp or hypertrophy sometimes, but not always, relieves the asthma. It must be remembered in these cases, as in others of a reflex nature, that we are not dealing with a simple mechanical effect alone, and that we can by no means feel assured that because the asthma, or any other condition produced reflexly, does not subside on the removal of the supposed exciting cause, that our diagnosis was incorrect. A certain proportion of cases will terminate in speedy relief, but others, owing to " that which for want of a better explanation we designate as habit, may have so impressed themselves

upon the nervous centers as to continue operative after the primary lesion has been removed."

The relation of hay fever, so-called, to diseased conditions of the nasal mucous membrane has been for some years past a much mooted question. Authorities generally agree that the three essentials for the development of this disease are: (1) A neurotic habit or morbidly irritable nerve center; (2) A diseased condition of the intra-nasal structures; (3) an external irritant, as dust, pollen of plants, etc. Much variety of opinion exists as to which of these causes is of greatest importance. Such well-known authorities as Bosworth, Harrison Allen, Roe, of Rochester, and Daly, of Pittsburg, regard obstructive disease of the nasal cavity as essential to the development of hay fever in all cases. Sajous and McKenzie are less positive in their statements on this point. In a paper read before the American Laryngological Association, 1887, by Dr. John O. Roe, he deduced the following conclusions, based on an analysis of forty-four cases of hay fever treated by himself. First, that all cases of hay fever have their initiatory lesion in a diseased condition in the nasal fossæ. Second, that the condition is not, *per se*, a neurotic disease; nor necessarily associated with a nervous temperament, although persons having a highly nervous temperament or a neurosis are much more susceptible to the influence of a local irritant. Third, that by carefully correcting all abnormal conditions found in the nasal and other portions of the respiratory tract and the use of such systemic medication as may be required to remove any associated, or consequent general derangement, we need not fail to cure hay fever.

My own experience in this class of cases has been too limited for a basis from which to make reliable deductions, but in the few cases that I have been called upon to treat a very considerable degree of hypertrophy of the inferior or middle turbinates existed, and I cannot but believe that as experience accumulates in the treatment of this disease from this standpoint, that results will show, conclusively, that obstructive disease of the nasal cav-

ity is the important factor in the etiology of hay fever.

Isolated cases are described in medical literature in which a variety of morbid conditions in distant organs have been referred to nasal origin, but the connection was so remote and problematical that I have not deemed them of sufficient importance to merit special mention.

It has been my endeavor in the foregoing considerations to cite briefly the many diseased conditions that may arise, directly and indirectly, as a result of nasal obstruction, and to show the importance of recognizing and relieving intranasal abnormalities, in all cases where the nature of the disease is such as to indicate a probable nasal origin.

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THE PHARYNGEAL TONSIL, OR TREATMENT OF THE NASO-PHARYNX.*

BY C. E. TEETS, M. D., NEW YORK CITY.

In most of the works on anatomy, the pharynx is described as a single cavity, while in those specially on the throat and nose it is regarded as consisting of two separate cavities.

The upper cavity, or space, has been designated by different names, as, the upper pharynx, the vault, the post-nasal space, and the naso-pharynx.

The term I think most appropriate, and the one clearly defining this region, is that used by Bosworth and Mackenzie—the naso-pharynx.

This cavity is situated immediately behind the posterior nares. Its roof is formed by the basilar process of the occipital bone and a small part of the body of the sphenoid, and terminates below in an imaginary plane opposite the lower border of the palate. The posterior wall is formed by the spinal column, and the anterior boundary is formed by the two oval openings of the posterior nares. On each side may be seen the pharyngeal orifice of the eustachian tube, which is surrounded by a cartilaginous ridge. At the upper part of the posterior wall and summit, we find a collection of lymphoid tissue or follicular glands, forming an illy-defined cushion, and known as the pharyngeal, or Luschka's tonsil, or adenoid growths. It is these growths

* Read before the Homœopathic Medical Society, State of New York, September, 1891.

of the naso-pharynx to which I desire particularly to call your attention. I believe they have been overlooked by a large number of physicians, and especially by those of our own school, and the attention they deserve has not been given to them. This is no doubt due to the prevailing opinion that after a certain period in life these growths disappear. While this may be true in some cases, it should be stated that they do not, as a rule, entirely disappear at puberty, but remain as an exciting cause of naso-pharyngeal catarrh, and of diseases of the ear.

Out of 33 cases which I operated upon last winter and spring, 2 were over thirty, 5 over twenty-five, 9 over twenty, 11 over fifteen, and 7 over ten years of age. One, a young lady of twenty-two, had been previously operated upon; she informed me that at the age of eighteen the growth was removed by a specialist in New York. On making an examination, which was four years after, I discovered a growth that completely obstructed the right nasal passage and also covered part of the eustachian tube on the same side; demonstrating the fact that, in the adult, there is occasionally a recurrence or hypertrophy of these growths after an operation for their removal. Another case was that of a lady thirty-three years of age. I learned from her mother that at the age of twenty she possessed a very sweet voice, which gradually began to change in character and continued up to the time she presented herself for treatment, when her voice was almost destroyed. This altered character of the voice I traced directly to the existence of an enlarged pharyngeal tonsil, which, projecting from the roof, had almost closed up the posterior nares, interfering with the sound waves, and giving a harsh tone to the voice. One month after removal, her voice, though not entirely restored, had very much improved.

This tonsil and the faucial tonsils are subject to the same diseases. The former is often the starting point of inflammation or follicular tonsillitis. The liability to hypertrophic changes to which the faucial tonsils are sus-

ceptible in some persons, exists also in the pharyngeal tonsil, and should receive the same treatment.

If a patient came to our office with enlarged faucial tonsils, the first thing we would do, provided we obtained the consent of the party, would be to remove them, and there is no reason why we should not pursue the same course in a case of enlarged pharyngeal tonsil. You are all acquainted with the symptoms of these growths, such as pinched nostrils, stupid expression, stenosis of one or both nostrils, with constant catarrh, discharge from the ear, loss of hearing, mental dullness, etc. If these growths in the naso-pharynx are a prime cause of such evils, they should be removed. The idea of outgrowing the sequels of a malady that, if let alone, will persist in its development, is absurd; and it is full time that physicians generally gave more attention to them, treating them early in their development, and not waiting until so far advanced that the patient is beyond hope.

A number of different methods and instruments have been presented for the removal of these growths. Where they are not large they may be removed by application of chromic acid, or by the galvano-cautery, using a guarded electrode. In a few cases I have found marked improvement follow a course of this treatment, yet I have often been disappointed and had to resort to surgical treatment, which I consider to be the best.

The best instrument for the purpose, I believe to be the Curtis post-nasal cutting forceps. I have used the curette, wire snare, and other forceps, but would give my preference to the Curtis. They have cutting edges on the posterior and upper edges, and, overlapping like a punch, cut the growth out so quickly that it produces very little pain, and also avoids tearing the mucous membrane. In young children, it will be found necessary to use an anæsthetic, chloroform being the best.

STUDIES OF IRIDOCYCLITIS AND OF ATROPHY
OF THE BULBUS OCULI, WITH COMMENTS
ON DR. EMILE BERGER'S RESEARCHES*
AND ANATOMICAL PLATES ON THE ALTER-
ATIONS OF THE OCULAR GLOBE.

BY H. H. CRIPPEN, M. D.

Introduction.—In iridocyclitis, as well as in suppurative panophthalmia, all parts of the eye are in a state of inflammation, but in the former the progress of the disease is more slow and chronic. For this reason panophthalmia is followed by more grave disturbances than those which occur in iridocyclitis. In the latter a portion of the light sense may be preserved to the end of the disease, a fact that we do not find after panophthalmia.

Since, at present, enucleation of the eye in panophthalmia is seldom performed, we will be obliged to refer to the older authorities, Schiess-Gemuseus, Ritter, etc., for the purpose of comparing the pathological anatomy of panophthalmia with that of iridocyclitis.

The very grave alterations of iridocyclitis are well known. The pupillary border of the iris is agglutinated to the capsule of the lens, the anterior chamber is decreased by the pushing forward of the iris, the ciliary processes are swollen, the crystalline is surrounded by exudations, and the papilla of the optic nerve appears projecting. Later, the vitreous humor becomes shrunken, the retina is detached, and the suprachoroidal space is filled by the exudation. The sclerotic is wrinkled and the cornea flattened when

* *Anatomie Normale et Pathologique de l'Œil.*

the intra-ocular tension becomes lessened. The subsequent form assumed by the eye results from the force due to the changes in the intra-ocular tissues and to the pressure of the contiguous organs, chiefly the ocular muscles.

Sichel* affirms that the section of the stump of the eyeball then becomes quadrangular. Near the external rectus there arises a small arch of sclerotic, because the insertion of this muscle is the most distant.†

Gayet and Marson distinguish: ‡

1. Essential phthisis and the following forms of atrophy of the bulbus according as they arise;
2. After suppurative destruction of the cornea without loss of the crystalline;
3. After wound of the cornea, of the crystalline, and of the vitreous humor;
4. After wound of the sclerotic, with partial loss of the vitreous, the crystalline being intact.

The greater the loss of the constituent parts of the eyeball the more extensive are the modifications of the form of the bulbus. After loss of the crystalline and of large portions of the vitreous, the stump may shrivel until it becomes no larger than a small nut or a pea, and is mostly hidden in the depth of the orbit.

The atrophy may attack chiefly the anterior or the posterior portion of the eye.

Two very rare forms of atrophy are described by Berger, as shown in the following illustrations:

Figure I represents the anterior portion of a stump enucleated at Schoeler's clinic, in Berlin. The greater part of the cornea has been destroyed by ulceration. In the left of the figure appears the remains of the cornea (*a*) united with the iris; on the right the anterior portion of the stump is represented by a fibrous substance (*g k*), which corresponds to the vitreous body; the anterior portion is produced by the iris (*i*), considerably thickened, and by the ciliary body

* *Annales d'Oculistique*, 1846.

† Wedl and Bock, *Pathologische Anatomie des Auges*, 1886.

‡ *Essai sur l'Atrophie du Oculaire Globe*.

(*a m*) broken up and traversed by hemorrhages. Between the ciliary body and the sclerotic (*s*), irregularly limited in front, is found a space (*r*) in the form of a sac.

The sub-choroidal space (*s l*) is filled by a cicatricial

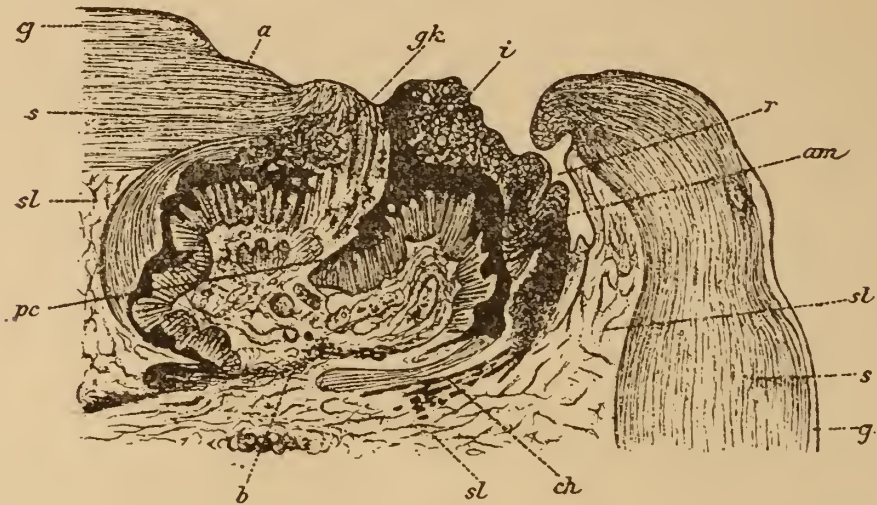


FIG. 1.*—Meridional section of an atrophied eye enucleated on account of sympathetic ophthalmia. Magnified 8/1.

a. Cicatrix produced by the iris and by the remains of the cornea.

gk. Vitreous incarcerated in a wound of the cornea. With the iris (*i*) and the ciliary muscle (*am*), it represents the anterior wall of the atrophied eyeball.

r. Space between the scleral border and the ciliary muscle.

b. Part of the fibrous tissue, where the limits of the choroid, retina, and vitreous are confused.

fibrous tissue, which terminates at some distance from the anterior border of the sclerotic.

The crown of ciliary processes appears as a fold turned

* Reference table of letters common to all the illustrations that will appear in this paper.

aks. External nuclear layer.
am. Ciliary muscle.
ams. Molecular layer.
c. Cornea.
ch. Choroid.
cf. Conjunctiva.
cs. Cyclitic exudation.
ds. Dural Sheath of *n. o*.
e. Exudation.
gf. Blood vessel.
gk. Vitreous.
hk. Posterior chamber.
hy. Hyaloid.
i. Iris.
ihk. Prolongation of the posterior chamber.
iks. Internal nuclear layer.
iv. Inter-vaginal space of the *n. o*.

k. Osseous tissue.
l. Crystalline lens.
lc. Lamina cribrosa.
le. External limiting membrane.
li. Internal limiting membrane.
lk. Lens capsule.
md. Descemet's membrane.
n. Retina.
nfs. Layer of nerve fibers.
pc. Ciliary process.
pcr. Pars ciliaris retinae.
pe. Pigment layer.
ps. Pial Sheath.
s. Sclerotic.
sl. Sub-choroidal space.
sgs. Layer of rods and cones.
vk. Anterior chamber.

toward the axis of the eye, consequently there is a third section of the ciliary body (*pc*) in the center of the preparation. In some parts the choroid (*ch*) and the retina are still capable of recognition. In other portions we can no longer distinguish a limit between the supra-choroidal space and the vitreous body.

A fine, thin membrane, which is in connection with the conjunctiva, surrounds the numerous inequalities of the

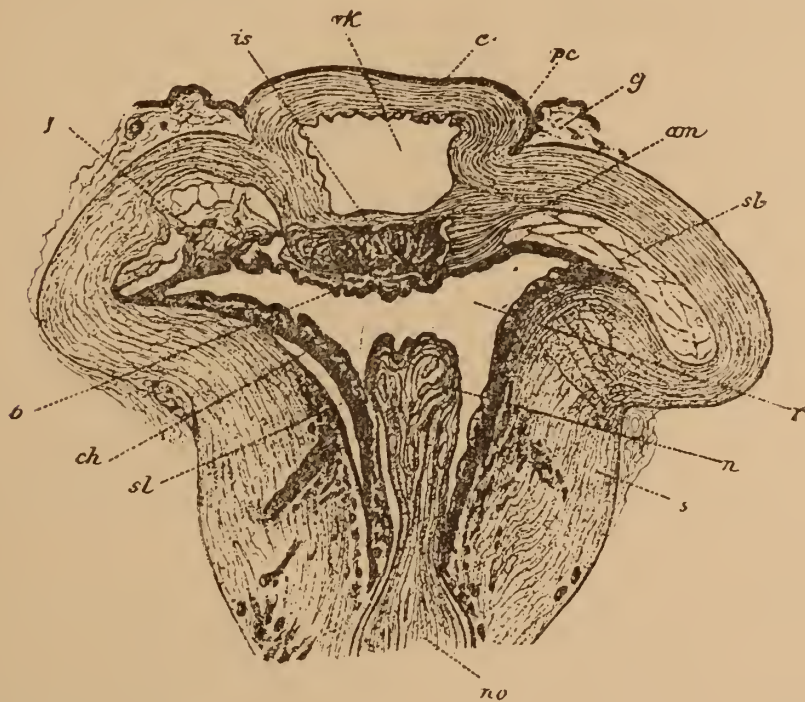


FIG. 2.—Meridional section of an atrophied eye. Magnified 4/1.

- vk.* Anterior chamber.
- n.* Retina.
- no.* Optic nerve.
- b.* Remains of the vitreous.
- r.* Cavity behind the vitreous.

anterior surface of the eye. Without doubt there was formed in this case a large fistula of the sub-choroidal space.

The second rare form described by Berger is shown in the beautiful specimen given by Figure 2, which represents the meridional section of a stump. The corneo-scleral border appears angular posteriorly. Probably this alteration of form is produced by the considerable retraction of the iris and of the crown of ciliary processes.

The anterior chamber is considerably enlarged in a sagittal direction, but it is shrunken in the frontal diameter. The internal contour of the ciliary body has a concave form. Beyond this the ciliary body is continued as an undulating black line. Between this black line and the ciliary body is situated a fibrous mass (*b*), corresponding to the vitreous, detached in the form of a funnel and shrunken into a fibrous débris. The fragment (*n*), situated in front of the optic nerve (*n o*), corresponds to the retina, with its folds connected to each other. The space (*r*) situated between the retina and the considerably thickened choroid (*c h*) is filled with a serous liquid.

The supra-choroidal space (*s l*) is enlarged in the anterior portion, and is filled by a fibrous tissue, traversed by large lacunar cavities; in the posterior portion of the stump the sub-choroidal space is obliterated. The crystalline is absent. Perhaps it has been absorbed.

The various alterations of each constituent portion of the bulbus, in iridocyclitis and in atrophía bulbi, may now be studied in detail by following Dr. Berger and by referring to his preparations.

EPITHELIUM OF THE CORNEA.

Enlargement of the Intercellular Lacunæ.—Small Bullæ.—The same intercellular lacunæ that are described in the epidermis by Bizzozero have been demonstrated by injection among the cells of the corneal epithelium by Leber.* The epithelial cells of the cornea are surrounded by a great number of small filaments. By the adhesion of two filaments, situated face to face, are produced small intercellular lacunæ, which appear enlarged in iridocyclitis. From the communication of several of these intercellular lacunæ arise small spaces filled with a drop of fluid which, in the majority of cases, are placed near the basal cells.

Toward the anterior surface of the epithelium the drop of fluid increases in size. In consequence the anterior layers

* *Graefe's Archives*, xxiv., I.

of the epithelium are lifted up in front of the bulla. Sometimes two or more bullæ unite. In some regions the bullæ are found ruptured. Drops of serum are also found within the epithelial cells themselves, chiefly near the nucleus. These vacuoles are situated in the anterior part of the basal cells and considerably exceed the nucleus in size. These cells may be found filled with fluid like the bullæ, the protoplasm being reduced to a thin border near which the nucleus is situated.

In Fig. 3 is represented the corneal epithelium of a

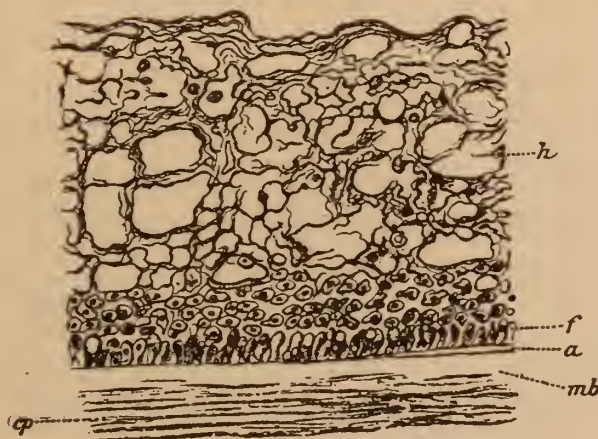


FIG. 3.—Transverse section of the corneal epithelium. From the center of the cornea of an atrophied eye, with spaces (*h*) in the anterior layers of epithelium. Magnified 200/1.

f. Basal cells.

a. Fissure produced by a slight detachment of epithelium.

mb. Bowman's membrane.

cp. Corneal parenchyma.

stump where the intercellular lacunæ are so enlarged that the anterior portion of the epithelium has the appearance of a honeycomb.

Leber * states that the intercellular lacunæ in staphyloma of the cornea may sometimes attain such a size that they are microscopic, and clinically demonstrable. The epithelial lacunæ represented by Berger are a reminder of a similar observation by Saemisch, where the spaces were filled by a colloid mass.

* *Loc. Cit.*

The basal cells, as well as the contiguous layers, are separated by a little darker fluid, which allows recognition of the filaments of the cells (Fig. 4). In the other layers are seen larger and more irregular spaces which are separated by the epithelial cells arranged in a plexus. The anterior surface of the epithelium has an undulating form. In the spaces situated between the epithelial cells are found pus globules. These alterations of the epithelium may be compared with those of varioloid pustules.

The appearance of dentated and spinous cells, as well as the enlargement of the intercellular lacunæ situated in the

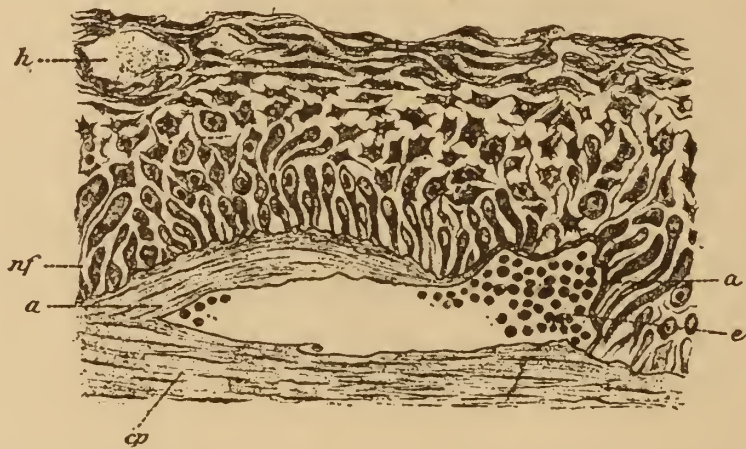


FIG. 4.—Transverse section of the corneal epithelium of the same eye near the corneal margin. The inter-cellular lacunæ are considerably enlarged. Magnified 300/1.

a. Membrane of connective tissue detached by the exudation.

h. Bulla of the corneal surface.

nf. Nerve fibers.

epithelium of the cornea, is also found in some other diseases; in glaucoma (Leber), in staphylomas of the cornea (Czerny, * Schiess-Gemuseus), and in buphthalmia (Schiess-Gemuseus, † Grahamer ‡).

Proliferation of cancerous form in the epithelium.—In some stumps, chiefly those in which the cornea is replaced by cicatricial tissue, Berger has frequently found papillary proliferations of the corneal epithelium. These prolifera-

* *Bericht der Wiener Augenklinik.*

† *Graefe's Archiv.*, xxx., 3.

‡ *Graefe's Archiv.*, xxx., 3.

tions especially recall the appearance of cancroids (Leber). The contiguous conjunctival epithelium presents similar alterations. Iwanoff also believes that these papillary proliferations develop in the conjunctiva. Such thickening of the epithelium may be interrupted in oblique sections by fibrous tissue, and this may explain the report of Althoff, who found fibrous elements between the anterior and posterior layers of the corneal epithelium.

Pigment and deposit of lime salts in the epithelium.—Simultaneously with the presence of pigment in the corneal parenchyma, Berger found in some cases a very fine pigmentation of the last two or three layers of cells of the corneal epithelium. In the cancrioid growths of the epithelium this same pigmentation may be observed more frequently. Deposits of lime salts in the corneal epithelium of atrophied eyeballs have been reported several times.

Development of pannus.—In atrophic eyes there is sometimes found, between the epithelium and Bowman's membrane, a fibrous layer traversed by vessels, recalling the alterations of pannus. These changes consist in the development of a loose fibrous tissue filled with pus cells (Klebs); later on this cicatricial tissue becomes undulating. A thin fibrous layer limits the epithelium and presents as the anterior wall of the areolar tissue, the basal part containing large vessels. The development of this layer begins at the peripheral portion of the cornea. In some preparations made by Berger the lacunæ of the areolar tissue appeared to occupy the intercellular fissures of the epithelium.

According to E. Sargent, this layer of pannus may also occur in the clinical form of a band-like opacity of the cornea.

BOWMAN'S MEMBRANE.

The nerve canals and the folds of Bowman's membrane.—In iridocyclitis Bowman's membrane is traversed by a great number of very fine lines, sometimes transverse, in other cases oblique, corresponding to the nerve fibers which pass through the membrane. While these fibers only appear in

the normal cornea when treated with chloride of gold, they are very clearly seen in iridocyclitis as well as in glaucoma (Fuchs), on account of the imbibition of the cornea. Bowman's membrane may be preserved even in atrophied eyes, but this is a rare occurrence. The number of nerve fibers which traverse this membrane is small. The nerve fibers also appear in atrophied eyes (Fig. 4) internal to the corneal epithelium in fine lines, situated in the intercellular fissure.

Without doubt, in atrophied eyes, a great number of the nerve fibers are destroyed. A simple experiment, contact with a probe, demonstrates that the sensitiveness is considerably diminished in the majority of cases.

When Bowman's membrane is preserved in an atrophic eye it is usually greatly wrinkled. In iridocyclitis, its plaited appearance is already observed at the periphery of the cornea. In an atrophied eye Bowman's membrane generally loses its homogeneous appearance and acquires a structure similar to that of the cornea.

Bullous keratitis.—Examinations of bullæ of the cornea have given quite varied results. Different authorities give the anterior wall of the bulla as represented by :

1. The epithelium and Bowman's membrane (Schmidt-Rimpler, Uhthoff, Landesberg).
2. The epithelium, Bowman's membrane, and a layer of the corneal parenchyma (Von Graefe).
3. The epithelium alone (Schweigger, Saemisch, Landesberg). Fuchs has found the epithelium and a fibrous sub-epithelial layer raised up by the liquid.

To these opinions Berger adds the evidence taken from Fig. 4, which represents a transverse section of a bulla placed in the superficial layers of the cornea of an atrophied eyeball. The anterior wall of the bulla is formed by the epithelium and by a fibrous membrane (*a*). The small cavity (*e*) placed behind this membrane is filled by a sero-purulent liquid. Since Bowman's membrane cannot be recognized in this preparation there remains a doubt as to whether or not the detached layer is produced by a transformation of this structure. The posterior wall of the

cavity is represented by the parenchyma of the cornea (*c p*). It must also be stated that small detachments of the corneal epithelium by a liquid are sometimes observed both in iridocyclitis and in atrophied eyes.

PARENCHYMA OF THE CORNEA.

Œdema of the cornea.—At the end of a work on opacity of the cornea in glaucoma, Fuchs says that he finds in iridocyclitis cases presenting an opacity of the cornea similar to glaucoma. After examining a great number of eyes, Berger supports the truth of this statement, adding, as a modification, that there exist essential differences between glaucoma and iridocyclitis that relate to the *origin and localization* of the corneal œdema. These essential points we shall follow in detail.

Extent of the œdema of the cornea.—Fig. 5 represents the transverse section of the peripheral portion of the cornea of an eye affected by cyclitis. The corneal parenchyma is traversed by a great number of small lance-shaped or irregular fenestræ, having their longitudinal axis parallel to the surface of the cornea and containing the fixed cells of the cornea. While in glaucoma we find these fenestræ more developed in the anterior part of the corneal parenchyma, in iridocyclitis they are always *largest near* the posterior surface.

If the corneal œdema is but little developed in iridocyclitis, these openings are recognizable only in the posterior portion and the anterior layers seem intact. In glaucoma the inhibition of the cornea with the serum is greatest in the center of the cornea. On the contrary in the eye affected by cyclitis (Fig. 5) the periphery of the cornea is more affected by the œdema than the central portions. The fenestræ of the cornea frequently appear larger in the longitudinal section. In some cases of iridocyclitis, where the transverse section of the cornea does not demonstrate œdema, a frontal section shows traces of this alteration.

Œdema of the cornea in the atrophied eye.—Berger has also found in a certain number of atrophied eyes, and

chiefly after iridocyclitis, a very considerable œdema of the cornea, but its distribution is more irregular. Generally the inbibition of the cornea is greater in the posterior part

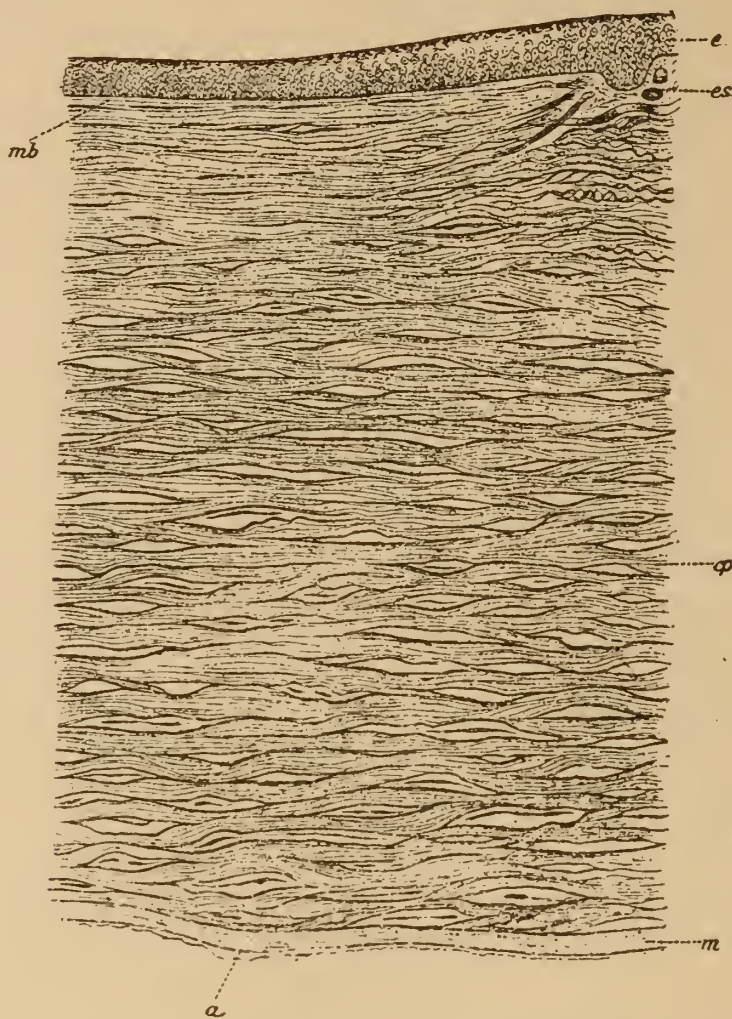


FIG. 5.—Transverse section of the peripheral part of an eye affected by iridocyclitis. Œdema of the cornea. Magnified 130/1.

e. Corneal epithelium.

es. Vessels of the corneal margin, surrounded by lymph cells.

mb. Bowman's membrane.

a. Slight detachment of Descemet's membrane.

than in the anterior. The fenestræ are enlarged by the union of two or several primary openings.

Alterations of the fixed cells of the cornea.—The qualities of the fixed cells of the cornea situated within the fenestræ merit description, for the reason that they are important with regard to the question of the lymph channels of the

cornea. Berger's transverse sections prove that the fixed cells of the cornea are attached in part to the anterior wall, in part to the posterior. Many of the fixed cells are situated in the middle and send prolongations toward the marginal parts of the fenestræ.

Fuchs has made similar observations concerning the situation of the fixed cells of the cornea in glaucoma, and says "it is not rare to see them adherent to the fibrillæ traversing the fenestræ." To explain the significance of these fibrillæ it is worth while to examine the cornea in the frontal sections taken from cases of iridocyclitis.

In Fig. 6, from Berger, is represented such a section taken in a marginal portion of the cornea near Descemet's

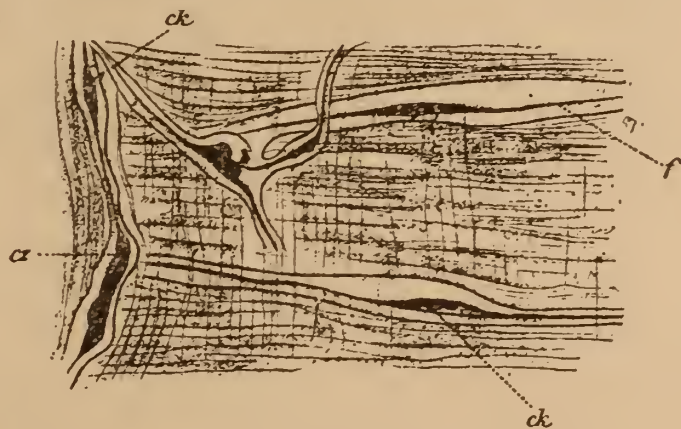


FIG. 6.—Frontal section of the posterior part of the cornea near the sclero-corneal margin. Magnified $470\times$.

ck, *ez*, and *f*, as in the preceding.

membrane. The fixed cells of the cornea are swollen and contain two to four nuclei and sometimes even more. In the left part of the illustration may be observed the division of a fixed cell into a certain number of cells. Near these groups of cells, that are still connected and that have their constituent parts separated by very fine transverse lines, appears a pus cell (*ez*). The fixed cells of the cornea are situated in large tubular cavities that are clearly limited by the corneal parenchyma. The protoplasmic prolongations of the fixed cells are also separated from the walls of these tubular cavities by a liquid. The enlargement of the lymph channels was greater in other cases than that of the illustration.

Fig. 7 presents a small extent of the posterior portion of a transverse section in an atrophied eye. Here will be seen the same alterations of the fixed cells of the cornea (*ck*) as in iridocyclitis, that is, the swelling of the protoplasm and the increase of the nuclei. The lower portion of this section presents the union of two enlarged lymph canals. Within these fenestræ the fixed cells of the cornea are united by a protoplasmic thread. Small processes of the anterior and posterior wall, the remains of the wall which previously separated the two canals, penetrate into the opening. Near the protoplasmic prolongations are found

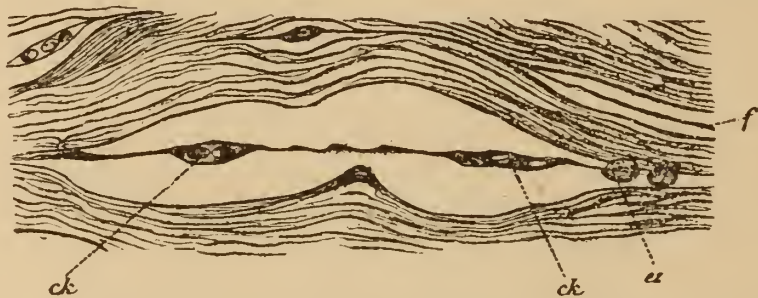


FIG. 7.—The lymph lacunæ of the cornea (parenchyma) of an atrophied eye. Transverse section. Magnified 470/1.

ck. Fixed cells of the cornea.

ez. White blood-corpuscles in the enlarged lymph canals.

cells of pus. The lymphatic channels (*f*) which contain the prolongations of the fixed cells are considerably enlarged.

In the beginning of its development, the inflammatory oedema is chiefly massed in the primary channels of the tissue, but later on the tissue is traversed by canals of new formation. The parenchyma of the cornea is consequently split into fibers and afterward into primitive fibrillæ, as in glaucoma (Fuchs).

Berger's observations on the fixed cells of the cornea in iridocyclitis seem to prove that these cells and their prolongations do not present a plexus of tubules containing the nutritive liquid, as advanced by Waldeyer and Recklinghausen. On the contrary, the fixed cells of the cornea and their prolongations are situated within the lymph canals of the cornea, as demonstrated by Röllett, Müller, Kuehne, and Engelmann.

On account of the inflammatory œdema of the cornea in iridocyclitis these lymph channels appear considerably enlarged. Ranvier has very clearly shown these lymph channels by injection. The same constitution of the fixed cells of the cornea was found by Klemesiewicz in the traumatic keratitis of a frog.

In the posterior layers of the cornea of staphylomatous eyes, Berger has also found enlargement of the lymph canals. In buphthalmia the same alteration appears to exist. Ulrich found very large openings between the corneal lamellæ which are contiguous to the anterior chamber. "The lamellæ themselves, as well as Descemet's membrane, appear swollen." Grahame also describes, in the same disease, a system of cavities situated in the cornea and ramifying in an irregular manner.

Development of Pus.—Eyes affected by iridocyclitis are particularly favorable for the examination of the question concerning the relation of the fixed cells of the cornea to the development of pus, for the reason that the inflammatory process advances very slowly in the cornea. Schoeler, of Berlin, relates the case of an eye affected by an iridocyclitis caused by a pistol shot. The microscopical examination showed a very considerable œdema of the cornea. The nerve fibers traversing Bowman's membrane could be easily seen. The majority of the fixed cells of the cornea, chiefly those situated in the center, presented no alteration or only a little swelling. In a few of the fixed cells of the cornea the nucleus was enlarged. But in no part was there a separation of the fixed cells into several cells. In the lymph canals were found pus cells near the fixed cells, as well as around the neoplastic vessels.

This case proves that the alterations of the fixed cells caused by inflammation appear very late. In favor of this fact, *that the alterations of the fixed cells of the cornea develop independently of the inflammation*, Berger states that in all atrophied eyes he has found, even when there existed no inflammation in the cornea (pus cells being absent), the

swelling of the protoplasm and increase of the nuclei of the fixed cells.

Their proliferation is without doubt the consequence of the increase in the affluence of the nutritive liquid which accompanies the inflammation and which may also develop without any inflammation.

Neoplastic changes ; regressive metamorphosis of the vessels.—The neo-formation of vessels begins at the peripheral vascular ring of the cornea. The vessels develop from the commencement of prolongations of the capillaries in the form of cones. From these result vacuoles which receive an adventitious sheath of fusiform cells (Arnold).

In atrophied eyes, Berger found the development of regressive metamorphosis of the walls of the blood vessels. There appeared an inflammation of the walls of the vessels, analogous to endarteritis and to obliterating endophlebitis. The internal membrane was thickened and the vessels shrunken until they became impermeable. Some vessels were thus transformed into a fibrous cord. Deposits of lime salts in the walls of the vessels were also noted.*

Development of pigment.—Berger has observed the deposit of small granules of fat and of pigment in the corneal vessels of atrophied eyes. In one eye he also found pigment in the lymph canals and in the protoplasm of the cells. This author believes with Hirschler that it is probable that the diffuse pigment sometimes observed in parenchymatous keratitis may have its origin in the blood vessels and not that it immigrates from the iris (Ritter).

Colloid deposits and deposits of lime salts.—Colloid deposits have been found in the anterior lamellæ of atrophied eyes. Wedl and Bock have demonstrated their presence in cicatrices of the cornea simultaneously with deposits of calcareous salts. Iwanoff has described sparkling drops between the lamellæ of the cornea, situated near its external surface. He considers them as the product of a regressive metamorphosis of pus cells.

* Wedl and Bock found the same changes in secondary glaucoma.

As to deposits of calcareous salts Berger believes that they are of rare occurrence, for the reason that the cornea, in atrophied eyes, is traversed by a nutritive current of abnormal force, while a certain slowness in nutritive changes is necessary to the appearance of a calcareous collection.

DESCMET'S MEMBRANE.

Solution of continuity.—It is well known that when a partial or a total destruction of the cornea has occurred, we observe a reformation by means of a cicatricial tissue. In place of the cornea, we find the anterior wall of the eye represented by the iris, covered with exudation, by the vitreous or by the ciliary body (Fig. 1). In transverse wounds of the corneal parenchyma the tissue is so regenerated that the lamellæ are almost vertical to the surface of the cornea (Klebs). The proof of an antecedent perforation is demonstrated by the presence of a solution of continuity of Descemet's membrane.

Separation into lamellæ.—In iridocyclitis Descemet's membrane presents, in transverse microscopical section, a great number of very fine rays. With a fine needle it can be split into two or three lamellæ. Fuchs has seen such a division caused by the deposit of an exudation between the lamellæ. In iridocyclitis, Berger found an exudation transformed into fibrous tissue and deposited between the lamellæ of Descemet's membrane. The same author has observed a similar separation of the anterior portion of Descemet's membrane into lamellæ in an atrophied eyeball, and he explains this change as follows: "The membrane of Descemet is composed of anhistous lamellæ produced by a cuticular secretion of the endothelium of the anterior chamber, and cemented by a mastic-like substance. In iridocyclitis this cement is destroyed by the influence of the chemical alterations in the fluid of the anterior chamber; Descemet's membrane appears fissured longitudinally and subsequently divides into lamellæ." This lamellar structure of Descemet's membrane is very distinctly observed in eyes that become atrophied in consequence of panophthalmitis.

Detachment of Descemet's membrane.—In atrophied eyes affected by an œdema of the cornea it is common to find a small detachment of Descemet's membrane. Berger presents one case (Fig. 8, *e*) where the space between the corneal parenchyma and the membrane of Descemet was filled by an albuminoid liquid, and another, in an atrophied

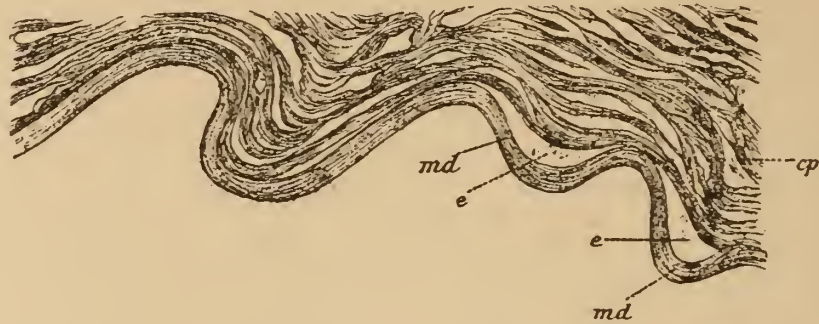


FIG. 8.—Transverse section in the posterior part of the cornea of an atrophied eye. Liquid (*e*) between Descemet's membrane (*md*) and the corneal parenchyma. Magnified 190/1.

eye with considerable inflammatory infiltrations of the cornea, in which there was a very extensive detachment produced by an effusion of pus (Fig. 9, *e*).

Alterations affecting the endothelium in iridocyclitis chiefly relate to an enlargement of the intercellular lacunæ. Pus cells are sometimes found between the endothelial cells, and these Oeller attributes to parasitic influence. In atrophied eyes, in which an anterior chamber still existed, Berger was unable to find a continuous endothelial layer covering Descemet's membrane. In iridocyclitis, shrinking of the cell protoplasm occurs and the form of the nucleus itself is sometimes altered.

Detachment of the endothelium often occurs in iridocyclitis. It is well represented in Figure 5 (*a*), from Berger.

Pigmentation.—In iridocyclitis some granules of pigment are very frequently found in the protoplasm of the endothelial cells. This pigmentation is generally greater toward the margin of Descemet's membrane. Oeller believes that the origin of the pigment may be sought in the red blood corpuscles which are collected to the number of six in a single cell. But the presence of pigment floating in the

anterior chamber is also frequent. It originates in part in the pigmented cells of the stroma of the iris. Pigment is also developed in the blood vessels in advanced stages of iridocyclitis. The current of the fluid in the anterior chamber being directed toward the periphery, it is not surprising that the greater part of the pigment is found at the border of Descemet's membrane, where it is taken up by the endothelial cells.

Colloid degeneration.—The colloid corpuscles, which are found at the periphery of Descemet's membrane in normal eyes, sometimes become so numerous in disease that the whole posterior surface of this membrane appears covered by them. They are produced by colloid degeneration of the endothelial cells.

Fusiform cells.—In some atrophied eyes, chiefly those where the anterior chamber was absent, Berger found fusiform cells, with their protoplasm filled by a black, granular

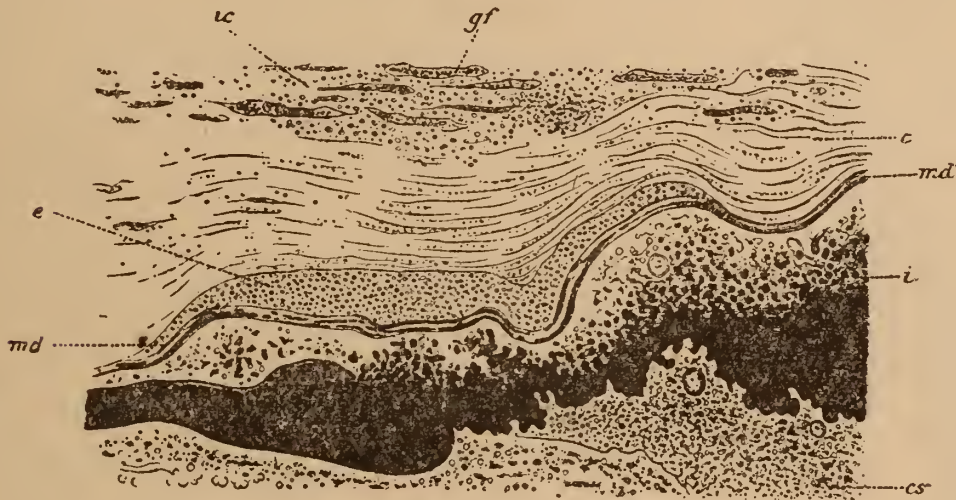


FIG. 9.—Transverse section of the cornea of an atrophied eye. Detachment of Descemet's membrane by a purulent exudation. Magnified 80/1.

ic. Inflamed parts of the parenchyma of the cornea.

pigment. These cells covered the posterior surface of Descemet's membrane. Oëller has observed these cells in iridocyclitis and considers them as produced by migratory cells; but Berger denies this and evidently believes that these fusiform bodies are the result of proliferation of the endothelial cells.

(To be continued.)

A NEW UNIVERSAL DOUBLE-ACTING SNARE.

BY CHARLES A. BUCKLIN, A. M., M. D.

The good principles of all similar instruments have been combined in this snare and their inherent defects have been obviated.

The wire is attached to a solid stylet, the objections to which are overcome by the powerful ratchet motion which draws it.

A screw motion is also attached to the same stylet; thus enabling the operator to use a very slow-cutting snare where hemorrhage is feared, while the ratchet motion provides a rapid-cutting one where there is no reason to expect hemorrhage.

The handle and ratchet motion may be detached at pleasure, leaving an instrument suitable for the slow strangulation of a very vascular growth.

The instrument has a straight tip for the nose, and curved tips for reaching the larynx, and naso-pharynx, through the pharynx.

In curved canulas all attempts to use flexible stylets under severe traction are dangerous, as they must break, sooner or later, in making the transit of the curve.

With this wire *écraseur* every benign neoplasm or hypertrophy, found in the nose, naso-pharynx, or pharynx, can be removed at a single sitting, in a manner which commands the approval of the most conservative operator.

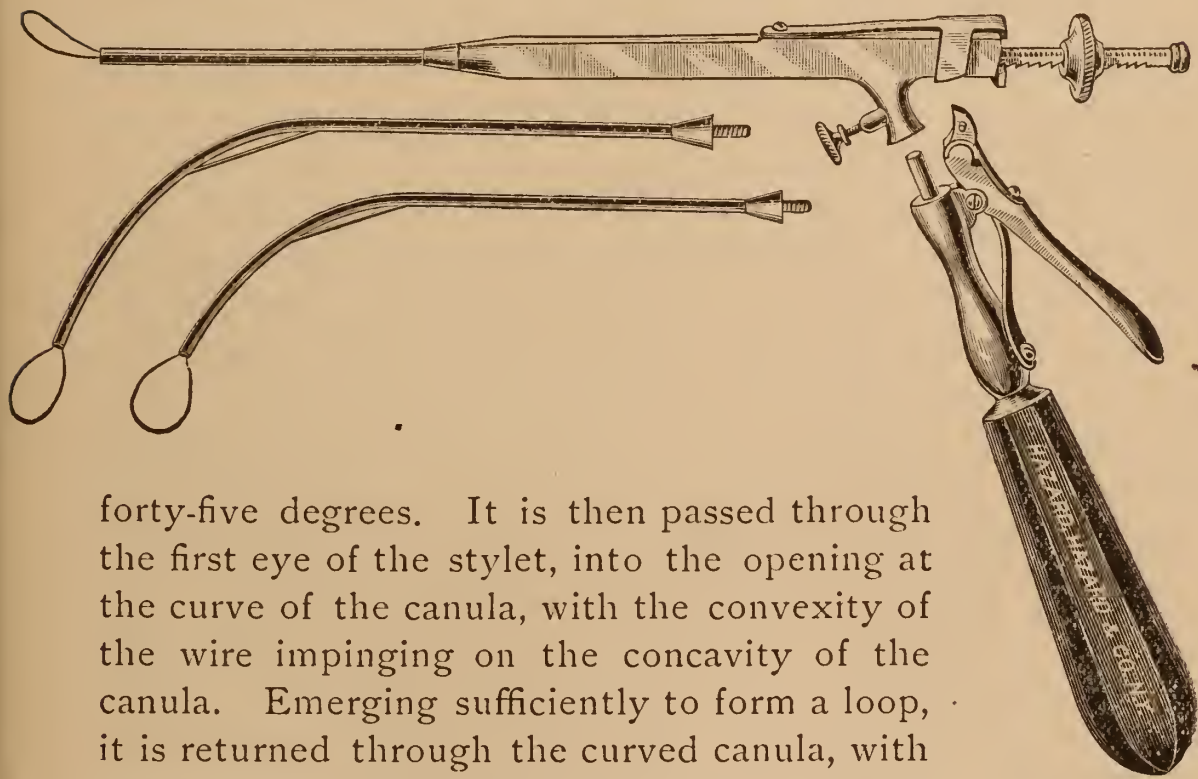
This instrument also fully meets all the requirements met by Stoerk's laryngeal guillotine, or wire *écraseur*, and furnishes one not provided with laryngeal forceps with a

simple and effective means of extracting many foreign bodies which lodge in and about the larynx.

If the instrument is firmly secured at the detaching joint, the wire properly fastened, and the clearances of the ratchet under strain are one thirty-second of an inch, it will never fail to cut any growth the loop embraces.

The straight canula is armed with wire by passing it through the eyes of the slightly projecting stylet from opposite sides. The required loop having been formed, the stylet is drawn by the ratchet motion, and the projecting ends of the wire are cut.

The curved tips are armed with wire by bending one-sixteenth of an inch of the end of the wire at an angle of



forty-five degrees. It is then passed through the first eye of the stylet, into the opening at the curve of the canula, with the convexity of the wire impinging on the concavity of the canula. Emerging sufficiently to form a loop, it is returned through the curved canula, with its convexity impinging on the concave surface of the canula. When the wire appears at the opening, it is twisted until the bent point is opposite the second eye in the stylet, which it will enter easily, and the loop is complete.

By the pressure of the thumb on the top of the instrument the wire loop, after having been drawn, can be returned instantly to position for further operation through any of the tips.

SOME OBSERVATIONS ON HAY FEVER.

BY MALCOLM LEAL, M. D.

Being myself a victim of hay fever, I am always reluctant to undertake, as a specialist, the treatment of such unfortunate fellow-sufferers as may be referred to me, yet I object decidedly to telling them of my own infirmity and, by saying, "Oh, yes! I have a little cold," sometimes escape the otherwise inevitable "physician heal thyself," which phrase will in time become the exciting cause of a homicide. A ludicrous mental picture rises before me and I see myself removing irritable rhinal areas and obstructions, and surreptitiously wiping my own nose or smothering a sneeze under cover of my patient's distress.

So my treatment of such cases either has been tentatively palliative, or I have referred them to others who did not feel obliged to indicate their confidence in radical treatment by becoming themselves examples of its effect.

When Dr. Ivins's paper, read at the International Homœopathic Congress,* was sent to me in advance, that I, as leader in the discussion, might be the better prepared, I made some notes only, relying on my own enforced and therefore vivid recollection of details to fill in the text. I was unexpectedly unable to be present when the paper was read, and, as my notes were mere headings, could not deputize any one to act for me. Since that time the hay fever season of 1891 has practically terminated and our knowledge of its ætiology may be reviewed in the light of its vagaries as exhibited during the past season.

* See p. 198, this volume.

The difficulty of demonstrating its cause and morbid anatomy is greatly enhanced by the time limit. Occurring as it does at a definite season, and that one not favorable to the continued labor attendant on experimental observation, researches begun one year must often lie over until the next, with the almost certainty of a break in their logical sequence. I may not be able to carry out the experiments necessary to test the ideas formed, and connect the phenomena noted in the past, while others may find opportunity to investigate in the same lines, if these lines are indicated by publication.

Therefore I publish my notes now, that all who are working in the same field may be prepared, if they so desire, to carry out the observations at the earliest opportunity. I have failed for several seasons to begin at the proper time, and so have been unable to advance directly our knowledge of the subject. I have observed that the past season was an "off-year," especially for the August type of hay fever. The onset was delayed in most cases, and the symptoms varied from those manifested in other years. The coryza was less, asthma scarcely noticeable, while the conjunctivitis, while beginning at the usual time, was mild. The actual onset of the attack in untreated cases was deferred until the 1st of September. There did indeed occur an unusual number of what I have usually denominated August colds. These were attacks of tracheo-bronchitis, or laryngo-tracheitis, appearing suddenly, without any adequate exposure to, or history of taking cold; the disease progressed rapidly; soreness of the chest, with muco-purulent sputum, appearing inside of twenty-four hours. There was little or no involvement of nose or eyes, and obstinacy in subsidence was the rule. These cases were, however, distinct from hay fever in the points indicated, and in that they did not develop more especially in hay fever subjects. Also, they were aggravated by the rain which gives the hay-fever victim relief. Some of the cases were associated with rheumatic pains, and all were coincident with high degree atmospheric humidity.

I am a believer in the pollen theory of causation, but am not yet satisfied that the pollen acts as a simple irritant, or even a specific, in the sense in which the term specific is used (*i. e.*, mechanical). I have this year noted some facts which any one of us may use in investigation to the advantage of all. I have reason to believe that pollen formation conforms to calendar date in a given locality. I planted sunflower seeds under varying conditions of time, environment, and nutrition, and obtained several plants which varied in size from seven feet in height to eighteen inches, and in diameter of blossom from seven to two inches; but in spite of the difference in size all blossomed in the same week, and the pollen from all was identical as viewed under the microscope, and the developed seeds were apparently the same. A friend (I am almost minded to leave out the r) sent to me by post on the 20th of August a box labeled, "Rag weed from D——." Although I had been a sufferer from hay fever for twenty years, and had heard ragweed pollen named as the special demon which attacked the mucosa of the victim, I had never before seriously attempted to identify the plant, so this box was opened with due care, and a moment's inspection served to show that I had faithfully nourished in my window garden, for purposes of botanical study, a sturdy sample of the same plant. I immediately whipped off some pollen from the dried and fresh plants and compared them; found them identical in form and microscopic properties; smaller than the pollen of sunflower, calendula, daisy, or golden-rod, with spines less prominent, and to me totally unirritating, at least in my specific irritant sense. I whipped the branch and smelt of it, but no nasal or other irritation was observed, though pollen grains were plentiful. I must say, however, that the plants showed but few mature flowers. Since then I have whipped through fields of rag weed without noting any especial irritation of nasal or conjunctival mucosa, though as the air was humid the conditions were perhaps unfavorable to the development of a paroxysm of hay fever. There is nothing in the microscopic appearance of the pollen of rag

weed to favor the conclusion that it is a mechanical irritant, for it is less spinous, though smaller, than the pollen of the sunflower, calendula, golden-rod, etc.

The pollen of the calendula differs from others observed, in that, when moistened, it immediately swells at triangular points, and many pollen grains burst, discharging a finely granular fluid. In spite of this property the pollen of calendula failed to produce any special irritation when dusted into the air.

In a recent issue of Queen's *Microscopical Bulletin*, there appeared an abstract of an article in *The Microscope*, by Prof. Byron D. Halsted. In this article he says: "The pollinia of the green milkweed (*acerates viridiflorum*, Ell.) are in themselves interesting for microscopical study. . . . A number of these pollinia were placed between sheets of agar agar, which had been prepared fresh. The warm liquid was poured out into small bacteria dishes, and as soon as cold one thin film was inverted in its dish to bring the smooth bottom side uppermost. Upon this surface the pollinia were placed, and a second layer of agar agar was laid upon the first, bringing the two smooth surfaces together. In a few hours the pollinia had begun to germinate. The agar agar is so transparent that the growth of the tubes can be watched under a moderate power of the microscope. Almost at once the central portion of the 'snow shoe' becomes cloudy, granules next appear, and in a few hours the walls have separated along one side and the ends of the pollen tubes protrude. All that has been said of green milkweed applies generally to the pollinia of various species of the closely related genus of *asclepias*. . . ."

Is it possible that such a germination may occur in the nasal secretion or the mucosa in hay fever? Some years ago Dr. Carl Bunsen published in the *Scientific American Supplement*, an article on the development of gonorrhea, nasal catarrh, and diphtheria, in which he pictured the pathological changes by drawings taken from photomicrographs, made of the mucosa of live rats. In this article he

made a strong point of the difference in appearance between the vital mucosa and the dead secretions and sections. I wrote to him at the time, asking questions as to his method of investigation, and found that he imbedded the infected living rat in plaster of paris; controlled circulation by use of digitalis; muscular twitching by galvanism; used magnesium light for observation, and plunged a high power immersion lens into the living mucosa of the opened pharynx. Soon after the animal died the phenomena observed disappeared. He claimed a species of development in diphtheria of certain cells which was not unlike that of the pollinia observed by Prof. Halsted in the agar agar.

As regards the treatment of hay fever, I have found that the local action of cocaine is temporarily beneficial, but the reaction is such that I never apply it to the conjunctiva, trusting to salt water bathing; or, if the conjunctivitis is severe, to the application of zinci sulph. gr. i, sodii. chlor. gr. ij., aq. f 3 i.; also, with one of these, the bathing of the eyelids in cologne water, or dilute alcohol.

A three per cent. solution of cocaine applied to the rhinal mucosa, I use myself, but never prescribe. It relieves the nasal stenosis, and, to a slight degree, the asthmatic tendency, but reaction sets in and in a few days it has no effect, even in five per cent. sol., stronger than which I have not cared to use it on account of the constitutional symptoms developed. The asthmatic paroxysm has been best relieved by fumigation. If the nasal stenosis is relieved, the irritant seems to act directly on the bronchial mucosa. This same result appears to follow surgical interference with the hypertrophies of the nasal membrane.

In judging of the results of treatment of hay fever we must beware of "off" years. I look for many reports of cures from the last year's treatments, because of the climatic conditions pertaining during the present.

I have seen several of the "runaway" type who have been compelled this year to remain in insalubrious surroundings, and yet have escaped any great discomfort.

As to the effect of remedies, the same precaution must be

observed. The imaginative neurosis may overbalance the irritative neurosis, as evidenced by Dr. J. N. Mackenzie's classical case of the woman who developed a paroxysm when shown an artificial rose; and in fact I note generally that the attacks become more severe after the patient accepts the diagnosis of "hay fever."

That there is a June wave I have no doubt, and with some this June cold continues until the August exacerbation.

Another thing: the continued irritation of the mucous surfaces results in an actual inflammation; and the attack of hay fever, a vaso-motor disturbance, may be prolonged into a bronchitis, and result in a winter cough.

What we wish, as physicians, is to know the truth, and while I firmly believe in the action of remedies in this affection, I must confess I am unable to contribute toward the proof of their beneficence.

In reviewing Dr. Ivins's paper, I find little to criticise, nothing to condemn. In his view of personal predisposition, I might take exception to his statement that the proclivity resides in the nose, because I observe that subjects of hay fever are also apt to be sufferers from urticaria, dyspepsia, oxaluria, hemorrhoids, and myalgias. The nasal irritation removed, the conjunctivitis, asthma, and other symptoms may still remain.

CLINICAL CASES.

BY W. N. BELL, M. D., OGDENSBURG, N. Y.

I. *Reflex Blepharospasm*.—A boy five years of age was brought to me from an adjoining town with a history of "sore" eyes of two months' duration. Inquiry revealed nothing regarding the case, aside from the symptoms as they were presenting, namely: an intense dread of light, with accompanying spasm of the lids.

The photophobia and spasm was so marked, that to sufficiently open the lids to accurately examine the eyes was absolutely impossible, and after vain efforts to do so, I resorted to chloroform, expecting to find a phlyctænular keratitis to account for the trouble. To my surprise, farther than a slight hyperæmia of the conjunctiva, and moderate lachrymation, the anæsthetic afforded no clew to the nature of the disease. Somewhat perplexed, I prescribed proper diet, etc., and gave Conium internally.

At the next visit of the patient, two weeks later, the condition remained unchanged, but a thorough inquiry developed the fact, as described by the parents, that the child "had been troubled in making his water," and led me to examine the penis, which threw immediate light upon the ætiology, as a phimosis, with very extensive adhesions, was found to exist.

It was impossible to obtain the parents' consent to a thorough operation, but they finally permitted me to slit up the prepuce sufficiently to greatly relieve the stricture. This I accomplished as well as possible, whilst the patient was under the primary influence of the anæsthetic, making the incision far enough up to uncover the glans penis beyond the corona.

Instructions were given to report with the child again in two weeks. At the expiration of that time, however, the father came in to inform me that the child was practically well, and that the improvement began almost immediately after the last visit.

II. *Suppuration of Middle Ear resulting from Cleft Palate, in Child Three Weeks Old.*—November 6, 1890, was called to see a baby three weeks of age who had been suffering from a purulent discharge from both ears for several days. The condition presented all the symptoms of an acute inflammation of the middle ear, but I was at a loss to explain such an occurrence in so young a child of good family history, with the best of professional nurses, and surrounded by all the luxuries of wealthy parentage.

On inquiry it was found that infant had not been able to nurse from the breast, and on examination a complete fissure of the soft palate, and absence of the uvula, was discovered. The nurse stated that the infant had quite frequently choked whilst being fed, with regurgitation of food through the nose, and that great care was necessary to prevent this unpleasant occurrence.

As the inflammation progressed, a severe mastoid periostitis developed on the right side, which required two operations (Wilde's incision), and for several days the symptoms were so grave the child's life was despaired of.

The cause of the inflammation remained doubtful until my third visit, when, during a choking paroxysm, while being fed, a few drops of milk were found exuding from the auditory canals, indicating, beyond doubt, that the trouble first originated in the forcible propulsion of the food through the eustachian tubes into the tympanum, during some unusually severe disturbance in deglutition.

It was with great difficulty that the disease was finally controlled, for each introduction of the foreign element into the tympanic cavity served to augment the existing inflammation; but our efforts were finally rewarded, and to-day the child is in perfect health, aside from the defective palate, with hearing practically unharmed.

ICE IN IRITIS.*

BY H. D. SCHENCK, M. D., BROOKLYN, N. Y.

At the last meeting of this society a paper was presented upon the use of ice in iritis which was particularly interesting to me, as I had used ice cautiously in several similar cases with very good success. The cases reported then by Dr. Helfrich were all confined to a form of iritis which he says might well be designated irido-conjunctivitis. This paper will report more or less fully my use of ice since then in some of the other forms.

Like Dr. Helfrich, I had been taught that ice was only useful in traumatic iritis, but had used it in the first stages of the other forms several times with good effect. I am now convinced that the ice would have been much more effective if it had been used longer.

The cases to be reported are one syphilitic and two rheumatic; although one of the latter always seemed suspicious, no direct specific history could be elicited. All of them were treated at home; one of them as an outdoor dispensary case. In none of these was I able to apply the ice in a rubber ice bag. In the first one because he was financially unable to procure one. In both the others I was called on Saturday, and before they could get the rubber bag from New York, they were so well satisfied with the use of pounded ice in a small muslin bag that they did not purchase the other. The muslin bag was wrapped in a towel so as to prevent dripping as far as possible. In this

* Read before the New York State Homœopathic Medical Society, September 16, 1891.

way a less degree of cold was maintained than would have been the case with a rubber bag, which may account for none of the cases showing any haziness of the cornea, mentioned by Dr. Helfrich, although the ice was used more or less constantly for over two weeks in one case. The ice was kept on constantly during the first 24 or 48 hours, then during the day, and at night only when there was pain. One of the marked effects in each case was the relief from the severe iritic pain which the cold gave, after heat in each case had failed to relieve or had aggravated it.

The first case was of a man of sixty years, a shoemaker, broken in constitution by long years of dissipation, in whom I suspected specific infection, although it was strenuously denied and there was no direct evidence. He said the iritis followed a mild attack of la grippe. He was seen the third or fourth day, and it was then a moderately severe case in his right eye with few adhesions to the lens. The iris responded sluggishly to atropine, all but one of the adhesions breaking up. He was an out-patient in the Brooklyn E. D. Homœopathic Dispensary, and as this was Saturday would not be seen for two days. Heat was ordered with a cotton pad to the eye, with *Merc. sol.* internally. The eye was decidedly worse on Monday, the iris being more discolored and sluggish and the injection and photophobia much greater. He had had little relief from the pain. Ice was then ordered, which gave him several hours' sleep the first night, and on the second day the eye showed marked improvement in every way. In less than ten days the eye was well. There was no change in the remedy from the first, and the ice was used less and less steadily as improvement progressed, his instructions being to use the ice only when he had pain, after the first three or four days.

Case two was one of double specific iritis, five months after infection, in a man of thirty-eight. He had had what he supposed was a severe conjunctivitis for a week before I saw him. At that time the inflammation was very severe in the left eye, and moderately so in the right. He suffered intense pain, and the photophobia and redness were great. As it was late in the evening when I saw him first, and as there was an insufficient supply of ice, heat was tried during the night, and *Merc. corr.* given internally. He got no relief from the pain, and the inflammation was worse the next day.

Ice was immediately ordered for the left eye, which almost immediately ameliorated the pain. In this case the aggravation, as soon as the cold was removed, was marked, and ice was kept applied to the left eye almost continuously for over two weeks. The inflammation had not been severe in the right eye, and it had improved steadily in the left without bandage or other protection. It appeared so well that at the beginning of the third week, in spite of commands to the contrary, he began to use it for reading in a poor light. This renewed the inflammation, and the right eye rapidly became as bad as the left had been at first. Ice ameliorated it at first, but, curiously enough, would aggravate it after the second day. Progress was slow and tedious with this eye, and the left was entirely free from any signs of inflammation before the right began to be comfortable. He finally recovered in a little less than six weeks after he was first taken, with only a single small iritic adhesion in each eye. Had it not been for the straining and relapse I am confident he would have recovered in three weeks, a very short time, according to my experience, with this form of iritis. After the severe symptoms had subsided Kali iod., in a saturated solution, was given. After the relapse, Merc. prot. was given and continued until he recovered.

The last case is an old gentleman who has suffered for more than a year with paralysis agitans. His was monolateral, right-sided iritis of not very severe type, but which caused much suffering in his weakened, nervous state. Heat failing to relieve during the first twelve hours, cold was applied, with complete relief and a recovery in less than two weeks. Cinnabaris was the only remedy used in the case.

My conclusions are: 1st. That ice may be good in many forms of iritis, and that it is equally as good in the later as the earlier stages. 2d. That it may be a source of relief from the severe iritic pains in many cases when heat fails, even though it does not shorten the attack.

GENERAL OBSERVATIONS ON THE SURGICAL STAFF OF THE ROYAL OPHTHALMIC HOSPITAL, MOORFIELDS, LONDON, AND THEIR METHODS.

BY HAYES C. FRENCH, M. D., SAN FRANCISCO, CAL.

In the hurry of our departure we have not time to enter upon details so important as is implied in a critical essay upon the individual methods and peculiarities of this wonderful staff of medical workers, but will leave that pleasant task to some future paper, and more opportune occasion. The hygienic conditions of Moorfields Hospital, considering the age of the building, and its environments, could scarcely be improved. We are glad to know that these painstaking and faithful workers have a reasonable hope of soon receiving, at the hands of the fortunate London public, a new building in some measure commensurate with their medical and surgical genius. The surgical amphitheater, in which the eye operations are performed, though not very large, is admirably adapted to the purpose for which it was designed, being well lighted and ventilated, and supplied with electric lights and all modern appliances, and instruments of the finest quality in abundance, arranged in the most convenient form; and the attendants are thoroughly trained and equipped for their work, everything moving off with perfect smoothness and regularity, and almost noiselessly.

The tiers of seats and railings for the use of visitors are admirably arranged around the operating table, so as to accommodate twenty or more, and allow each ob-

server a satisfactory view of the operation. The patient takes his place on the operating table usually amid perfect silence, necessary communications being made in a voice almost inaudible to any but the interlocutors. The house surgeon at once begins with the free use of nitrous-oxide gas from a large container under the table, when general anæsthesia is desired, following it, when unconsciousness has been secured, with pure chloroform, administered drop by drop through a common towel spread over the nose, until satisfactory anæsthesia is obtained, when a two per cent. sol. of cocaine is instilled into the eye. A German porcelain tray, containing a boracic acid solution, said to be saturated, in which only those instruments to be used on the patient on the table, are immersed, is then placed on a convenient shelf attached to the side of the table. We soon learned to predict the nature of the operation from the instruments in the tray. We were surprised to see so small a range of choice instruments in a staff so large, and differing so greatly in temperament and general bearing. This is another tribute to the methodical character and conservatism of Englishmen in every department of active life. We saw nothing but the "Birmingham" speculum used in the hundred or more operations we witnessed at Moorfields. Mr. Nettleship was the only surgeon who sent back an instrument that had been placed in the tray, and I respected his discrimination when he named a common fault of iridectomy forceps, saying it was "too stiff." The eye is first irrigated from a large porcelain vessel containing a solution of boracic acid, through a suitable hose of rubber, terminating in a pipe of hard rubber or glass, and the flow is regulated by pressure of the hose near the nozzle, between the finger and the thumb of the operator. The overflow is caught in a shallow ear tray fitted firmly to the cheek. The operation is then performed with the most perfect deliberation, often reminding the writer of our lamented Liebold. I never, during any of the trying complications that necessarily arose in a great number of operations of this class, saw the slightest departure from this rule in

any of the operators. We never witnessed a trembling hand, or any apparent difference, whether the right or left hand was employed in the operation, in any of the attendants. Ambidexterity is evidently regarded as a necessary qualification of the Moorfields', as it should be of all ophthalmic surgeons. Great pains and deliberation is observed, after extractions, in the removal of all cortical substance, the smoothing out of the iris, and the perfect coaptation of the lips of the wound. Aseptic cotton pads, cut in circles of about three inches in diameter, were then piled two or three deep on the padded orbit, and we wondered at the careless force with which the bandage was applied. In this respect they are far from the Baltimore school. We saw a great many of these operated cases of cataract, and were surprised at the almost total absence of suppurative trouble, and the high degree of vision obtained, as a rule, from the first operation, $\frac{20}{60}$ being not uncommon with a suitable glass. Most of the surgeons prefer a good conjunctival flap; a majority employ iridectomy, and those who do, generally prefer to make it at the time of the extraction. The old cystitome is unknown here, the needle knife having entirely superseded it in the hands of these accomplished surgeons, Dr. Tweedy, whose method we will explain in another paper, having adopted a plan of his own. With all their method and uniformity, we were struck by the unpretentious simplicity of these men, and their elasticity and apparent willingness to adopt any suggestion that promised better results than the methods commonly in use.

We only visited "Westminster Ophthalmic Hospital" on King William Street, twice, being greatly disappointed in the insignificance of the surgical clinic as compared with Moorfields. At Westminster we met Mr. McNamara, who was very pleasant and courteous. Dr. Hartridge, and many others of like reputation, belong to the staff of the hospital, but Moorfields has obtained the confidence of the people, and, with its brilliant staff of operators, will continue to hold the largest surgical eye and ear clinic in Great Britain. Of course, in all this free and courteous intercourse with

the great and successful eye surgeons of London, nothing was said or known of the therapeutic heresy locked up and cherished in our medical bosom; and, as in imagination we followed some of these cases to their well-equipped wards, we could but feel that if, to their wonderful skill and large hospital facilities, they would only add the benign and potent force of Similia, how much larger and more satisfactory must become the deserved success of Moorfields.

SOME CLINICAL CASES.

BY HENRY C. ANGELL, M. D., BOSTON.

AN INTERESTING CASE OF SQUINT.

Miss S., aet. twenty-three, convergent squint of right eye for ten years, but only during the act of accommodation for near vision. Cases are not infrequent where the patient squints in accommodation only; but in this case, as a Hyp. O. D. of 5.00 D., and O. S. of 4.00 D. exists, and as the manifest Hyp. in the left eye was only 1.50 D. when she came to me on December 18th last, she must have made constant use of a large part of her power of accommodation for distant vision; yet, there was no perceptible deviation of the optic axes except in reading. Her mother affirms this statement of the condition to be applicable for several years past. Moreover, when she reads, she generally closes the right eye, in order to avoid diplopia.

The patient is in good general health, has never worn glasses, and, notwithstanding her hyperopia, has never had any of the usual symptoms of accommodation asthenopia.

I prescribed convex glasses of four dioptrics for the left and five for the right eye, entire rest of accommodation for the nerves, the instillation of a half per cent. solution of atropine once daily, alternating it every two weeks with Duboisine of the same strength. This treatment was continued for three months; then she was permitted to read five minutes three times a day, and the mydriatic was discontinued. April 18 she is reading a half hour at one time, and finds no disposition to squint.

UNUSUAL ACUTENESS OF VISION.

G., a college student. aet. twenty. $V. = \frac{20}{16}$ O. U. with $+ .50$
 $V. = \frac{28}{16}$ O. U. Ophthalmoscope showed a hyperopia of about

one dioptric. Under atropine the hyperopia proved to be three-quarters of a dioptric in either eye. He had a slight accommodative asthenopia and was provided with $+ .75$ D. for study.

AN EXCEPTIONAL MYOPIA.

Dr. T., æt. sixty-eight, was obliged to use convex glasses for presbyopia at the age of fifty-three. He had always enjoyed excellent sight for distance, and supposed his vision, measured by the distance at which he could tell the time by the town clock, to be rather above the average. At the age of sixty he found that he could read more easily without his spectacles, and soon after this that his vision for distance was less satisfactory. He then provided himself with concave lenses for driving, and I found on his visit to me lately a myopia of five dioptries. I examined his eyes carefully, expecting to find a swollen lens from beginning cataract, but the lens was clear and the fundus entirely normal. $V. = \frac{10}{10}$ and $\frac{20}{20}$. The presumption is that he has been slightly myopic from youth and that refraction has been largely increasing since the age of sixty.

THE IGNORING OF HETEROPHORIA IN THE PRESCRIPTION OF LENSES.

Mrs. G. L. C., æt. thirty. Constant headache ; eyes ache, especially after use. Neurotic, mixed astig. R. astig. L. Esophoria 5° to 6° . Prescribed for the astig. simply. The headache improved immediately ; an occasional one now, after two months, can be fairly attributed to general fatigue.

Mr. G. W. L., æt. twenty-four. Constant headache. Hyperopia and astig. Exophoria 4° . Prescribed $+ 1.25$ D^s. $\subset + 1.25$ D^c. ax. 90° O. U., ignoring this exophoria. Headache cured.

S. A. C., healthy boy of eleven. Constant headaches. Hyperopia and astig. Exophoria 2° . The correction of the refraction cured the headache in a few days.

Mrs. S. R. B., æt. forty-seven, generally healthy. Headache and frequently dizziness, especially since the grip. Hyperopia and presbyopia. Exophoria 5° . Convex glasses and the Dyer method proved curative in two months.

Miss C., a strong girl, æt. nineteen. Daily headaches. Esophoria 3° , which I ignored and prescribed $+ .50$ D. for hyperopia

to be worn constantly, and the Dyer method to be practiced. In six weeks she was quite well.

Miss A. P., a weakly, neurotic, growing, over-educated girl of fourteen, has constant headaches. There is exophoria of $\frac{1}{2}^{\circ}$ and hyperphoria $\frac{1}{2}^{\circ}$, both of which I leave out of consideration, and prescribe for a myopia of two dioptries, and lessen her amount of study. Now, after three months, the headaches are gone and the general health improved.

These cases might be multiplied, and it would appear that heterophoria, even in neurotic individuals, often yields to the corrective of the error of refraction; and I am inclining to the belief that in heterophoria a careful search will usually find a refractive error—often nothing more perhaps than a slight astigmatism.

CLINICAL OBSERVATIONS.

BY FLOYD P. SHELDON, M. D., NEW YORK CITY.

The following cases are from the clinic of Dr. MacBride, of the New York Ophthalmic Hospital, and are given to illustrate (a) the action of Eserine when given internally for asthenopia and spasm of accommodation; (b) the use of Hydrobromide of Hyoscyamine, strength 1-100, instilled into the eye, to paralyze the accommodation; (c) a peculiar case.

Series A.—Mary M., aged thirty-four. Has had headaches for years just over the eyes. Eyeballs sore. Eyes itch and burn, also become tired and show some congestion on using.

$$\text{R. V.} = \frac{20}{40} (?) ; + .75 \text{ D}^s. \text{C} + 1. \text{ D}^c. \text{ ax. } 180^\circ \text{ V.} = \frac{20}{30}.$$

$$\text{L. V.} = \frac{20}{40} (?) ; + .75 \text{ D}^s. \text{C} + .75 \text{ D}^c. \text{ ax. } 180^\circ \text{ V.} = \frac{20}{30}.$$

Eserine, 3^c, was prescribed, a powder three times a day. This treatment was continued for one month. All the asthenopic symptoms were relieved and vision then was :

$$\text{O. D. } \frac{20}{40} ; + 1.25 \text{ D}^s. \text{ V.} = \frac{20}{20}.$$

$$\text{O. S. } \frac{20}{30} ; + 1.25 \text{ D}^s. \text{ V.} = \frac{20}{20}.$$

This glass was prescribed for constant use, and was worn with satisfaction.

Mrs. B., aged nineteen. Severe aching pains in the eyes, with nervous twitching of the lids and side of the face. Eyes itch and burn. This patient was of a very nervous temperament.

$$\text{R. V. } \frac{20}{30} ; + .50 \text{ D}^c. \text{ ax. } 135^\circ \text{ V.} = \frac{20}{15}.$$

$$\text{L. V. } \frac{20}{30} ; + .25 \text{ D}^c. \text{ ax. } 135^\circ \text{ V.} = \frac{20}{20}.$$

Eserine, 3^c, given as before for one month. Vision then was $\frac{20}{15}$ O. U. The nervous symptoms and aching disappeared. Says

her head feels clear and bright. Six months later the patient still felt well.

Grace A., aged fourteen, came to have her eyes tested for glasses. Complained of not seeing blackboard at school.

$$R. V. \frac{2.0}{4.0} (?) ; - .25 D^c. ax. 165^\circ V. = \frac{2.0}{2.0}.$$

$$L. V. \frac{2.0}{4.0} (?) ; + .25 D^c. ax. 75^\circ V. = \frac{2.0}{2.0}.$$

The ophthalmoscope revealed slight hyperopia in both eyes. Eserine, 3^c, was given three times a day for three weeks. Vision was then :

$$O. D. \frac{2.0}{3.0} + .25 D^s. V. = \frac{2.0}{2.0}.$$

$$O. S. \frac{2.0}{3.0} + .25 D^s. V. = \frac{2.0}{2.0}.$$

These glasses were worn with relief of all symptoms.

Series B.—E. R., aged nine, came to clinic on account of the sight, which had been poor for some time. Also has blepharitis ciliaris in both eyes.

$$R. V. \frac{2.0}{3.0} (?) ; - .25 D^s. V. = \frac{2.0}{2.0} ?$$

$$L. V. \frac{2.0}{3.0} (?) ; - .25 D^s. V. = \frac{2.0}{2.0} ?$$

Instilled one drop of Hydrobromide of Hyoscyamine in both eyes. In half an hour the accommodation was completely paralyzed, and vision then was :

$$O. D. \frac{2.0}{5.0} ; + .75 D^s. V. = \frac{2.0}{2.0}.$$

$$O. S. \frac{2.0}{5.0} ; + .75 D^s. V. = \frac{2.0}{2.0}.$$

These lenses were prescribed and worn with no further difficulty.

Nellie B., aged fourteen, schoolgirl :

$$R. V. \frac{2.0}{7.0} ; - .75 D^c. ax. 180^\circ V. = \frac{2.0}{4.0}.$$

$$L. V. \frac{2.0}{7.0} ; - .50 D^s. \subset - .50 D^c. ax. 180^\circ V. = \frac{2.0}{4.0} ?$$

Instilled one drop of Hydrobromide of Hyoscyamine in each eye, and in half an hour tested again.

$$R. V. \frac{2.0}{5.0} ; - 1.25 D^c. ax. 165^\circ V. = \frac{2.0}{2.0}.$$

$$L. V. \frac{2.0}{7.0} ; - .50 D^s. \subset - 1. D^c. ax. 180^\circ V. = \frac{2.0}{2.0}.$$

This patient returned in six days, when the effects of the mydriatic had entirely passed off, with a vision of :

O. D. $\frac{2}{7}0$ — 1.25 D^c. ax. 165° V. = $\frac{2}{2}0$.

O. S. $\frac{2}{7}0$ — .50 D^s. C — 1. D^c. ax. 180° V. = $\frac{2}{2}0$.

These glasses were worn with no further symptoms.

L. R., aged seventeen.

R. V. $\frac{2}{3}0$; — .75 D^s. V. = $\frac{2}{2}0$.

L. V. $\frac{2}{3}0$; — .75 D^s. V. = $\frac{2}{2}0$.

Twenty-five minutes after instillation of one drop of Hydrobromide of Hyoscyamine in each eye :

R. V. $\frac{2}{5}0$ + .25 D^s. V. = $\frac{2}{2}0$.

L. V. $\frac{2}{5}0$ + .25 D^s. V. = $\frac{2}{2}0$.

This glass was prescribed for constant use, and two months later the patient was still wearing them with comfort.

The Hydrobromide of Hyoscyamine has been used in our clinic for about one year in all cases where we formerly used the sulphate of atropia to paralyze the accommodation. Its action is rapid, and the effect passes off usually in four days.

Series C.—F. J., aged thirty-six. This patient came to the hospital in August, 1890, with a small hard tumor just at the edge of the external canthus of right eye. He wished to have it operated on and removed, as it disfigured him. He could remember no cause for it, the tumor having been there since a boy. An elliptical incision was made, and we removed a hard elastic cyst, on the inside of which was a piece of glass, $\frac{1}{4}$ -inch square by $\frac{1}{16}$ of an inch thick. The patient, on seeing this, then remembered that when a boy, while riding in the cars, a stone struck the window next to which he was sitting, breaking the glass and cutting him in the side of his face. This healed rapidly, and the tumor was noticed afterward

MASTOID PERIOSTITIS.*

BY H. D. SCHENCK, M. D., BROOKLYN, N. Y.

This case of mastoid periostitis is reported for two reasons. 1st, Because of the peculiarity of its position and progress; secondly, because it illustrates the danger of using dry powders indiscriminately in acute suppurations of the middle ear.

Mastoid disease is a more dangerous complication than has hitherto been supposed, recent authors giving a mortality between the wide limits of fourteen and sixty-two per cent. Mastoid periostitis is the simplest and least dangerous form of this trouble, but like periostitis elsewhere is very painful and distressing during its progress. The superficial tissues are frequently involved, leading to abscess, especially over the mastoid. Its cause is almost universally suppurative otitis media; and it follows insufficient or improper treatment of the latter in many cases.

In otitis media suppurativa the whole tract of the middle ear is involved, including the mastoid more frequently than has until recently been supposed. This mucous lining of the cerebrum and cells is very thin and in intimate relation with the bone and periosteum, which accounts for the frequency with which periostitis results from obstructed sup-puration here, and is the reason why it is always cautioned by writers upon these suppurations to give perfect drainage, although the last point is so often insisted upon.

* Read before the Homœopathic Medical Society, State of New York, September, 1891.

For several years it has been taught by otologists, with scarcely a dissenting voice, that the dry treatment was the only proper one for these cases. Schwartz was the first otologist of prominence, I think, to declare against it; and he vigorously opposed the use of boracic acid in all forms of suppuration in spite of the almost united opposition of his colleagues. He began his crusade three or four years ago and has since slowly gained recruits. In the *Annual of the Universal Medical Sciences* for 1888 quotations from Schwartz are given strongly urging the discontinuance of boracic acid in all suppurative conditions about the ears. In the *Annual* for 1890 the editors for this department, in addition to quoting from the same author, oppose the use of boracic acid in acute and sub-acute suppurative otitis with perforation of the membrana tympani. They say that it is a valuable treatment, but one that requires great care and discrimination. This is probably the correct view to take, as in a discharge that is watery, with little swelling of the canal, the use of boracic acid or other dry powder is safe; but in a thick adhesive discharge, or where the canal is much swollen, it is not only bad treatment, but a very dangerous one in many cases.

The following case illustrates this point :

Master T., a healthy lad of fourteen years, who had suffered much from nasal catarrh during last winter, was taken with a most acute pain in the right ear late one night last May. In spite of all the heat and local measures tried, he grew worse until he was almost frantic with the pain, and morphine had to be given. In about six or eight hours the membrana tympanum perforated, and the pain became somewhat more bearable with the discharge of thick, adhesive pus. The pain, however, was severe enough after that to make it impossible for him to secure any rest. The ear was imperfectly cleansed, and large quantities of boracic acid thrown in. This continued for three or four days with no abatement of the discharge or pain. Then there appeared just above and posterior to the auricle, but anterior to the mastoid cells, a slight swelling and redness which was very painful and tender. This periostitis had extended forward above the auricle when I

was called in consultation the next day. It continued very painful and to extend forward in spite of nux. hepar and other remedies given internally. As it extended anteriorly the swelling and redness disappeared in its track, leaving only a moderate tenderness. In 3 or 4 days from the time I was called, it had extended so as to be anterior and above the auricle. The swelling then began to extend over a considerable area and to involve the eye. As soon as it was beyond the temporal artery an incision was made to the bone about $\frac{3}{4}$ of an inch long. There was a profuse flow of blood, but not a drop of pus was found. The wound was kept open with a tent for four days and then allowed to heal, and did so without any suppuration. From the time the incision was made there was relief from the pain and on the second day the suppuration in the ear began to subside. In a few days it entirely ceased. When I first saw the case, the canal was carefully cleansed mechanically and with peroxide of hydrogen. The latter was used several times a day and I carefully cleansed it with borated cotton, beside, morning and evening. The canal near the membrana tympanum was very much swollen and it was not until the discharge began to lessen that the latter was seen. The perforation was then found to be in the posterior and lower segment and very small. From the time of the incision his recovery was rapid, and in two weeks the perforation had closed, and he had as good hearing as in his left ear, which was found to be affected with chronic catarrh which diminished his acuteness of hearing over one-half.

Had this ear been properly cleansed mechanically, and with peroxide of hydrogen, or some equally good agent, the periostitis would probably not have occurred. I have in mind another case where periostitis with mastoid abscess has occurred twice, the last time with caries of the bone as a result of the willfulness of the child in not permitting her ear to be properly cleansed.

My conclusions from these and other cases are, that much caution is necessary in the use of boracic acid, or other dry powders, in suppurative otitis with a swollen canal and thick discharge, and in case periostitis sets in to make Wild's incision as soon as possible.

RETROBULBAR NEURITIS.

BY CHARLES DEADY AND H. H. CRIPPEN.

(Concluded from page 278.)

Here, as in the acute form, we find a general diminution of color perception.

The central scotoma usually begins as a qualitative loss for red, which is seen as a darker shade than it really is. Later the ability to distinguish the color is entirely lost, and it is seen as a gray. Green, yellow, and blue may be lost in the order named, and finally the perception for objects is lost, and the scotoma becomes absolute.

The greatest annoyance is suffered by the patient while the scotoma is positive, *i. e.*, visible to the patient. It is in this stage that it is described as a fog, cloud, radiating heat, moving water, etc., as before noticed. When it becomes negative, and the patient is only conscious of it by the fact that objects are blotted out in its area, it is much less troublesome.

In shape the scotoma varies. It is most commonly described as an ellipsoid with the long diameter horizontal and its center corresponding to the fixation point.

Variations, however, are frequent and marked and may occur in the same patient, as cases are seen in which a horizontal oval scotoma is present in one eye, with a vertical oval in the other. Less commonly we may find an absolutely circular scotoma, with the center corresponding to the fixation point.

The scotoma becomes absolute by extension from the center toward the periphery; a ring of relative scotoma

surrounding the area in which it is absolute. Its process of extension is by conversion of this relative ring into absolute scotoma, and the throwing out of a new relative ring peripheral to it. Conversely, when the scotoma tends to clear up, the restoration may be from the periphery toward the center—a peripheral zone of the absolute scotoma becoming relative, and as this becomes normal, a new relative ring is forming always encroaching upon the absolute center. In some cases the scotoma may begin to clear up from the center, and here we have the production of the condition termed ring scotoma. As in the acute form we find here an affection of the light sense as distinct from visual acuity. Although otherwise stated by some authorities, there is no doubt that this condition exists, but the reduction of the light sense stands in direct ratio to the size of the scotoma and has no relation to the degree of visual acuity.

On account of the diminution of accommodation “they require stronger glasses for near vision than their age and amblyopia would warrant” (Knapp).

If the case is uncomplicated the visual field is normal in extent.

De Wecker makes the following points of differential diagnosis between ordinary retrobulbar neuritis and the toxic variety:

“The degradation of color from the periphery of the scotoma toward the center is more marked in toxic amblyopia.

“The scotoma for blue is very rare and very small in toxic subjects; less so in the other forms.

“The toxic scotoma is only for color and the presence of a central absolute scotoma, however small, would suggest a different origin.

“The limit of the peripheral field is absolutely normal in toxic amblyopia; less so, perhaps, in some other forms.

“In ordinary forms of the disease the relation between the intensity of the scotoma and the visual acuity is more constant and direct than in the toxic variety.

"Toxic amblyopia rarely causes an extreme loss of visual acuity. A reduction below $\frac{1}{20}$ is very exceptional.

"Toxic amblyopia is constantly bilateral; it attacks both eyes simultaneously and to an equal degree. Such regularity is extremely uncommon in ordinary retrobulbar neuritis.

"Toxic neuritis appears in males almost exclusively; on the contrary, ordinary retrobulbar neuritis attacks females in the greater proportion. We seldom find men with the simple forms of the disease at forty to fifty years of age, when the maximum toxic effect is found.

"Alcoholic neuritis causes no tenderness on extreme movements of the eyes, or when the globe is pushed backward into the orbit, as observed in many cases of the other varieties."

Prognosis.—As a general statement, the prognosis is good when there is no atrophy of the optic nerve present. This assertion, however, is subject to qualification; thus, the persistence of scotoma for long periods without showing a tendency to clear up would render the prognosis doubtful, especially if the scotoma were absolute. A relative scotoma, even if persistent, would afford more ground for the hope of ultimate recovery, while the gradual but steady disappearance of the defect in the field would lead us to hope for a most satisfactory result. Where the disease is due to alcohol or tobacco (?) the prognosis is usually very good, if the habit can be absolutely broken in the early stages of the affection. This is often a difficult thing to bring about, as many patients, although they promise well, will be found very poor in performance. It must, however, be insisted on, if we would hope for favorable results.

As with alcohol, so with lead and other poisonous substances; if they can be eradicated from the system before atrophy obtains, the probabilities are good.

Where the local condition is the result of general disease, of course much depends upon the course of the latter. Under such circumstances we may also have complications, as before noticed with respect to diabetes, which, by the

introduction of new factors into the case, may exert a considerable influence upon the result, and which cannot be here considered.

It is not uncommon to find a marked pallor of the temporal side of the disc persisting in these cases, and such a condition is not inconsistent with good vision. In the large majority of cases some small degree of vision remains, even when the papilla presents the appearance of confirmed atrophy.

Treatment.—Remove the exciting cause where this is possible. In the case of alcohol and tobacco, total cessation of their use is the first requisite. The loss of their customary stimulant may seriously affect the patient in some cases, but we must not yield to the common request that he be allowed to “taper off,” the poison must be stopped at once. If necessary, its place may be filled for the time being by a tonic, and in this connection we may mention *avena sativa*, the tincture of the common oat, as being extremely useful in these cases for the above purpose. It may be administered in doses of the concentrated tincture of from 10 to 20 drops three or four times a day.

Everything possible should be done to elevate the general tone of the patient; change of air, of scene, of occupation, outdoor life so far as possible.

As affording indications for the use of drugs, our experience in this disease is but meager. We have seen acute cases rapidly recover under the use of iodide of potassium, but this must be given in considerable doses. Where alcohol is the cause, our sheet-anchor is *nux vomica*, and many times it does excellent work.

Our friends of the old school use *strychnia* instead, but we have seen cases where the tincture of *nux vomica*, as representing the action of the drug entire, has seemed to be superior to the alkaloid.

The fact that several cases of the disease are reported to have occurred as the result of poisoning with bisulphide of carbon would seem to indicate this compound as a possibly very useful remedy in the treatment of the affection when

from other causation ; although the fact that in at least one case this drug has produced a loss of the normal contour of the periphery of the field of vision, would rather point it out for use in atypical forms of the disease. It is to be hoped that the profession will give this remedy a trial and report results.

The favorable results obtained from arsenicum and ignatia in many of the general disorders resulting from the abuse of tobacco, should lead us to a trial of these remedies in retrobulbar neuritis when supposably from a like cause, more especially if any general symptoms appear which seem to indicate either drug.

In cases due to uterine difficulties or where symptoms for its use can be elicited, Pulsatilla should be given a fair trial. This remedy, which is not always thought of in this connection, is very useful in many cases of the various diseases of the optic nerve and retina.

OPHTHALMOLOGICAL NOTES.

BY H. H. CRIPPEN, M. D.

The modes by which sympathetic ophthalmia is propagated from the diseased to the healthy eye seems still somewhat theoretical. Deutschmann thought this question settled when he made such conclusive experiments in this direction with rabbits. By injecting septic material in the vitreous body of rabbits he saw the infection gain the optic nerve, then the chiasm and even descend into the fellow eye by its optic nerve (always, though, after causing meningitis). The first symptom, then of sympathetic ophthalmia was, according to Deutschmann, a papillitis of the sympathizing eye. But more lately Randolph (*Arch. f. Augen.*) has given us more conclusive researches. In order to avoid the factor of meningitis, this last author selected dogs for his experiments. He injected in the vitreous body of these animals, microbes taken from a furuncle; no result was produced on the opposite eye. He made six like experiments on dogs with like results. Finally he reproduced on rabbits Deutschmann's experiments; but he found not the least trace of micro-organisms in the fellow eye.

To explain this divergence of results from those given by Deutschmann, Randolph believes the former to have accorded too great importance to the masses of embryonal cells which exist in dogs and rabbits in the optic nerve, in so much greater quantities than in man. Finally, in an eye attacked by sympathetic inflammation, freshly enucleated, Randolph has carefully sought for micro-organisms. Every care known to microbiology was adopted, but the author found no bacteria.

From the clinic of Dr. Coppez, of Brussels, we gather an interesting case of amblyopia resulting from poisoning by the bisulphide of carbon. The patient was employed in soaking caoutchouc in the bisulphide of carbon. Previous to the attack he had never been ill. The disease began during the past year after he had followed this occupation eight months; the attack then was light and a rest of eight days was sufficient to restore health, but four months later, after returning to his work, the attack returned and he entered the hospital of Saint-Pierre.

The subject is of lymphatic temperament, has red hair, his parents and two brothers and a sister are all in perfect health and never have had visual troubles. The patient has difficulty in walking; the left leg is more affected than the right; there is enfeeblement of the muscular powers of the limbs; the reflexes are normal. The disturbances began in the upper limbs, at the same time the patient had cramps in the calves, in the arms, and in the abdomen. Two months later serious disturbances began, first as considerable diminution of the hearing and vision; at the same time there were frequent attacks of headache. There was dazzling before the eyes; in the evening vision was better.

On examination at the clinic there was found a slight loss of sensitiveness of the conjunctiva. The visual acuity was greatly reduced; fingers were counted only at forty-five centimeters, on both sides. By the ophthalmoscope the fundus appeared absolutely normal. The visual field for colors showed the existence of a central scotoma for colors. The visual field was only slightly narrowed otherwise. Under the influence of treatment (quinine and injections of strychnine), the patient was discharged with vision $\frac{1}{20}$ in the right eye and $\frac{1}{4}$ in the left.

Comparing this case with others of poisoning by carbon bisulphide it will be seen that it is characterized, like those previously reported, by the existence of a central scotoma without any lesion appreciable by the ophthalmoscope. Hirschberg, however, has described an alteration of the macula, characterized by the deposit of whitish nodules. In

Galezowski's case, the amblyopia followed also in the second period, and there was slight loss of sensitiveness by the conjunctiva. In Lavigerie's case the visual fields for green and red were contracted. Dumont's report contains the only case where the field for colors was intact, all the rest (Nettleship, Hirschberg, Fuchs, Gunn, F. Becker, Nuel, and Leplat), had alteration of central vision for colors.

Coppez, in relating his case, expresses the opinion that bisulphide of carbon produces a retro-bulbar neuritis.

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* *

I. Widmark, of Stockholm, has conducted some experimental researches on rabbits to determine the cause of ocular affections due to the electric light (injection of the conjunctiva, photophobia, epiphora, loss of corneal epithelium). He proposed to decide if these so-called affections are caused by a retinal reflex or by a direct influence on the parts attacked. From the aid of his researches he believes that this last hypothesis is true. It was found that these irritative conditions are produced almost exclusively by the ultra-violet rays, which have likewise an inflammatory influence on the skin (electric erythema). The ultra-violet rays can even cause a disturbance in the crystalline (opalescence or striated opacities). The mediæ of the eye absorb the ultra-violet rays and thus protect the retina. Widmark has also succeeded in showing that the absorbent power of the lens for these rays is very great and thus attributes to this cause the cataract produced by intense illuminations.

*
* *

A. Fortunati has experimented on rabbits with a view to the determination of the way in which pyogenic microbes pass from the orbital cavity into the meninges. As an infectious material he has used pure cultures of the staphylococcus pyogenus aureus. Some drops of this were injected into the anterior chamber or into the vitreous or applied by means of cotton tampons to the bleeding surface resulting from enucleation of the bulb.

The result of these experiments may be reduced to three propositions, formulated by the author: 1. It is very difficult, if not impossible, to produce meningitis in rabbits by infecting the wound resulting from enucleation of the bulb, or by enucleating a panophthalmic eye with care to infect the orbital cavity at the same time. 2. Experimental, suppurative, retrobulbular inflammations are capable, when the optic nerve remains intact, of killing rabbits, but not by meningitis, at least in the great majority of cases. 3. The sheaths of the optic nerve represent the principal road followed by the infectious organisms in passing from the exterior toward the meninges.

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* * *

G. Cirincione (*Riforma med.*) adds some modifications and new facts to the histology of the lachrymal passages. He has found in the caruncle a grape-shaped gland not yet described, situated in the middle part of the fibrous tissue proper, a little below the sebaceous glands and the glands of Moll. Its structure resembles that of the glands of Krause and of Ciaccio. The excretory duct is single and is directed toward the summit of the caruncle. This gland is subject to enlargement in chronic inflammatory processes of the caruncle. In the conjunctival folds found at the lateral parts of the caruncle, and a little in front, the corium and the epithelium undergo modifications, not yet described, which cause the formation of tubular depressions lined with two layers of epithelium. In two instances Cirincione has found an acinous gland in the lachrymal canaliculi. In the mucosa of the sac and of the lachrymal canal he finds four species of glands: acinous glands, modified glands, tubular glands, and muciparous crypts. The second species, the modified acinous glands, are formed by a small mass of epithelial cells, situated immediately beneath the epithelium; the stroma is so thin and so rare, that it is difficult, at first, to recognize the acinous form. The acini are large and result from a layer of large flattened cells, which circumscribe a central lumen, filled in part by other cells irregularly dis-

posed. The lymphatic nodules that Krehbiel found in the canaliculi were met by Cirincione under the mucosa of the lachrymal canal, where they have not been described before.

* *

A. Birnbacher contributes to the pathological anatomy of acute glaucoma some observations on an eye enucleated after death, which occurred seven days after the beginning of the glaucomatous attack. The following lesions were found :

1. Chronic thickening of the endothelium of the *venæ vorticosæ*,
2. Serous choroiditis.
3. Swelling of the crystalline, pushing the iris against the cornea, but without obliterating the angle of the anterior chamber by a fixed adhesion.
4. Papillitis by stasis.
5. Flattening of the cornea.

* *

From a series of observations and researches Haensell concludes (*Arch. d'Ophthalmologie*) that glaucomatous processes reside in a hyaline degeneration which progressively invades the cells of all the tissues forming the eye and renders them incapable of performing their vital functions in consequence of obstruction of the passages by which nutritive material is carried to them.

If the hyaline degeneration begins in the optic nerve and is only consecutively propagated to the vitreous body, it leads first to blindness with excavation of the optic nerve. The increase of intra-ocular tension only occurs later.

On the contrary, if the vitreous is the seat of the hyaline degeneration, without the optic nerve being attacked, we have a case of glaucoma where increased intra-ocular tension may exist without excavation of the optic nerve and even with a normal visual acuity.

ANNOUNCEMENT.

With the issue of this number of the JOURNAL Professor Malcolm Leal severs his connection with the department of laryngology. When the JOURNAL was projected, Dr. Leal was invited to assume the editorship of this department, but he then refused on the ground that he could not give the time necessary to the proper performance of its duties. At the earnest solicitation of Dr. Norton and the present editor, he yielded so far as to promise his active co-operation toward the success of the venture, but refused to undertake the entire responsibility or to allow his name to appear on the editorial staff. At the end of the first year he had virtually performed all the labor falling to his department and was finally induced to appear as its responsible head.

Of late the increasing pressure from general and special practice, and the labor devolving upon him as a member of the governing faculty of the New York Homœopathic Medical College and Hospital, have rendered his editorial duties extremely onerous, and he finds it necessary to take this step as a means of reducing a burden which is overtaxing his strength.

While we cannot but feel regret at the loss of an associate whose ability is unquestionable, and whose personal qualities endear him to all, we are fortunate in being able to announce that a worthy successor has been found in Dr. Horace F. Ivins, of Philadelphia, who has been induced to accept the vacant chair. Dr. Ivins's well-known reputation as a worker, writer, and student, and his high standing in his specialty, are a sufficient guarantee that under his direction the department of laryngology will be kept fully abreast of the current thought, and we bespeak for him the cordial support of our readers throughout the country.

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